RIIGIKANTSELEI

MAJANDUS- JA
KOMMUNIKATSIOONI-
MINISTEERIUM

*Republic of Estonia
Government Office*

27. October 2017

Euroopa Liit
Euroopa Sotsiaalfond

Eesti
tuleviku heaks

The legal and political bottlenecks in the European Union for deployment of maritime transport e-solutions Final report

pwc

Authors

Name	Organisation
Indra Kaunis	Consolato del Mare OÜ
Kaarel Koosapoeg	AS PricewaterhouseCoopers Advisors
Mihkel Lauk	AS PricewaterhouseCoopers Advisors
Mari Jääger	AS PricewaterhouseCoopers Advisors

Steering group

Name	Organisation
Aigi Kasvand	Estonian Ministry of Economic Affairs and Communication
Algis Kokka	Government Office of Estonia
Anni Katkosild	Government Office of Estonia
Katrin Andre	Estonian Ministry of Economic Affairs and Communication
Miiko Peris	Estonian Ministry of Foreign Affairs
Taivo Linnamägi	Estonian Ministry of Economic Affairs and Communication

Table of Contents

Glossary of Terms

Term	Description
DG MOVE	Directorate-General for Mobility and Transport
Digitalisation	Digitalisation is the principle that the fulfilment of reporting formalities should be carried out in electronic format and/or relevant documents should be made available and used in electronic format
GDPR	General Data Protection Regulation of the European Union 2016/679 of the European Parliament and of the Council of 27 April 2016
IMO	International Maritime Organisation
SSN	Safe SeaNet is a vessel traffic monitoring and information system, established in order to enhance: maritime safety, port and maritime security, marine environment protection, and the efficiency of maritime traffic and maritime transport.
cSSN	The Central SafeSeaNet
nSSN	The National SafeSeaNet
REFIT	Regulatory Fitness and Performance – a process in the European Commission that is used to re-evaluate EU legislation in order to keep EU law simple, remove unnecessary burdens and adapt existing legislation without compromising on policy objectives.
RFD	Reporting Formalities Directive – RFD 2010/65/EU. A directive with the objective of simplifying and harmonising the administrative procedures applied to maritime transport and sets an obligation for Member States to establish National Single Windows (NSW) for reporting formalities from ships arriving in and/or departing from ports.
ECSA	The European Community Shipowners' Associations
EMSA	The European Maritime Safety Agency
EMSW	The European Maritime Single Window is a prototype system in which all information, including the eManifest, is reported and made available to various competent authorities in participating Member States. It covers the information flows between: the ship data providers (e.g. ship agent, master, shipping company), the relevant public authorities covering the port of call, and other Member States via SafeSeaNet.
NSW or SW	The National Single Window
eManifest	A pilot project with the aim of testing procedures that would simplify the submission of data elements required by different authorities for cargo formalities with the wider objective of facilitating and reducing the administrative burden on ship data providers.
VTMIS	Vessels Traffic Monitoring and Information Systems 2002/59/EC. A directive with the purpose of establishing a vessel traffic monitoring and information system within the European Community, with a view to enhancing the safety and efficiency of maritime traffic, improving the response-time of the authorities to incidents, accidents or potentially dangerous situations at sea – including search and rescue operations – and contributing to the better prevention and detection of pollution by ships.
PCS	Port Community System
EU	The European Union
MS	Member State

FAL Convention	IMO Convention on Facilitation of International Maritime Traffic, adopted on 9 April, 1965, as amended
FAL forms	The standardised document forms, as provided for in the FAL Convention
DTLF	The Digital Transport and Logistics Forum, established by the Commission decision taken on 9 April, 2015.

Kokkuvõte

Analüüs keskendub järgmistele hankedokumendis püstitatud uurimisküsimustele:

1.   Millised on peamised õiguslikud takistused kehtivas ELi õiguses, mis piiravad ELi tasandil meretranspordis dokumentide digitaliseerimist ja digilahenduste kasutuselevõttu? Milliseid uusi õigusakte on vaja vastu võtta (*legislative gap*), et soodustada digilahenduste laialdasemat kasutuselevõttu merenduses?
2.   Milliseid ELi õigusakte tuleks muuta, et parandada infovahetust intermodaalselt (st kuidas soodustada dokumentide – kaubadokumentide, sertifikaatide, veoselehtede jms – liikumist näiteks veokitelt ja rongidelt laevadele või vastupidi)?
3.   Milline on ELi andmekaitse õigusaktide mõju, piirangud, võimalused ja soovituslikud lahendused meretranspordis jagatavate andmete suhtes, eriti arvestades andmete ühekordse esitamise põhimõtet?
4.   Kas täiendavalt õiguslikele kitsaskohtadele on ka poliitilised ja/või tehnoloogilised küsimused, mis on takistanud digilahenduste kasutuselevõttu ELi meretranspordi valdkonnas?

Meretranspordi digitaliseerumist ja e-lahenduste kasutuselevõttu rakendati Euroopa Liidus järgmiste õigusaktidega:

*   Euroopa Parlamendi ja nõukogu direktiiv, milles käsitletakse liikmesriikide sadamatesse sisenevate ja neist väljuvate laevade teavitusformaalsusi (Reporting Formalities Directive [2010/65/EU]):
*   Euroopa Parlamendi ja nõukogu direktiiv, millega luuakse ühenduse laevaliikluse seire- ja teabesüsteem (Vessel Traffic Monitoring and Information System Directive [2002/59/EC]):
*   Euroopa Parlamendi ja nõukogu direktiiv, mis käsitleb sadamariigi kontrolli (Port State Control Directive [2009/16/EC]):
*   Euroopa Parlamendi ja nõukogu direktiiv laevaheitmete ja lastijäätmete vastuvõtmise seadmete kohta sadamates (Port Reception Facilities Directive [2000/59/EC]):
*   Euroopa Parlamendi ja nõukogu direktiiv, mis käsitleb liikmesriikide poolt välja antud meremeeste tunnistuste vastastikust tunnustamist (Mutual Recognition of Seafarers' Certificates Directive [2005/45/EC]).

Projekt korraldati kolmes etapis. Esiteks püstitas projekti meeskond mitu hüpoteesi meretranspordi digitaliseerumist puudutavate takistuste kohta, mida projekti käigus kontrolliti. Informatsiooni koguti dokumendianalüüsi ja ekspertintervjuude kaudu, mis tehti huvitatud osapooltega Euroopa Komisjonis, Euroopa Ühenduse Laevaomanike Assotsiatsiooniga, Euroopa Meresõiduohutuse Ametiga ja Taani mereadministratsiooniga. Järgmine samm oli intervjuude kokkuleppimine ja tegemine. Intervjuuküsimused kohandati vastavalt intervjueeritava organisatsioonile ja valdkondlikele teadmistele. Andmete kogumisele järgnes analüüs, mille käigus tuvastati meretranspordi digitaliseerimist mõjutavad kitsaskohad ja analüüsiti neid ning töötati välja ettepanekud nende lahendamiseks. Aruande alguses on lühikokkuvõtted raporti sisust eesti ja inglise keeles. Kokkuvõtetele järgneb projekti sissejuhatus, mille käigus tutvustatakse eesmärke ja metoodikat. Raporti sisuline osa struktureeriti vastavalt hüpoteesidele ja lahendusettepanekutele. Hüpoteesid jagunesid õiguslikeks, poliitilisteks ja tehnoloogilisteks. Eraldi käsitlemist leidis segavedude dokumentide digitaliseerimine.

Hüpotees 1 – Andmete elektroonilist edastamist puudutavad reeglid ei ole ühtlustatud

RFD pidi olema vahend, mille abil ühtlustatakse ja lihtsustatakse liikmesriikide ning nende ametiasutuste vahel laevandust puudutavate elektrooniliste teavituste edastamist. Praegu on viivitamatult vaja digitaliseerida ja jagada meretransporti puudutavat informatsiooni, mida kogutakse teavitamiskohustuse täitmisel ning ühtlasi sätestada ühtsed põhimõtted, et muuta teabe jagamine võimalikuks.

Ühtne liides (*single window*), mida kasutatakse raporteerimiseks ja informatsiooni edastamiseks liikmesriikide ja nende ametiasutuste vahel, peaks olema ühtlustatud digitaalne keskkond, mis on seotud SafeSeaNeti, e-Tolli ja teiste elektrooniliste süsteemidega. Andmevahetuse loomiseks on vaja liidestamise standardseid tehnilisi

nõudeid. Hoolimata RFD art. 1 olevast viitest info edastamise standardile ei kaasne direktiiviga selgeid tehnilisi spetsifikatsioone. RFD ei loonud selget alust ühtlustatud digitaalse keskkonna loomiseks, mille kaudu sisestatakse ja vahetatakse laevu puudutavaid andmeid. Liikmesriigid arendasid välja ühtsed liidesed, tuginedes oma tehnilistele platvormidele, mille tulemusel on Euroopa Liidus 22 raporteerimise keskkonda, mis kasutavad erinevaid standardeid. Tulemus viitab, et RFD ei saavutanud oodatud harmoniseerimise ja lihtsustamise eesmärki.

Ühtlasi on võimalik vähendada teavitusformaalsustes sätestatud andmeelementide hulka, ilma et see mõjutaks ohutust või muid nõudeid. Selleks on tarvis redigeerida teatud sätteid erinevates merenduse valdkonda puudutavates direktiivides ja ühtlustada vastavalt liikmesriikide asjakohaseid norme.

Probleemide lahendamiseks näeme kolme peamist lahendust:

1.   andmeelementide ühtlustamine;
2.   ELi õigusaktide ühtlustatud rakendamine, milles on määratletud harmoniseeritud teavitusformaalsused;
3.   sellise informatsiooni kindlaks määramine, mis läheb jagamisele teiste liikmesriikidega ja mida ei tohi uuesti nõuda, v.a kui andmetes toimuvad muudatused.

Hüpotees 2 – Liikmesriigid nõuavad dokumente erinevates vormingutes ja formaatides

Üheks RFD ebaõnnestumise põhjuseks võib pidada ka teavituskohustuste vähest ühtlustamist. RFD lisa osades A ja B sätestatakse informatsioon, mida liikmesriigid võivad laevadelt nõuda, kuid lisa C antakse liikmesriikidele õigus nõuda täiendavat informatsiooni vastavalt kohalikule seadusandlusele. Informatsioon, mis lisa osa C kohaselt küsitakse, jäeti ühtlustamata ega piiratud, millises ulatuses seda võib nõuda. Seeläbi kasvas merendussektori halduskoormus ja tuli korduvalt esitada samu andmeid RFD alusel ja liikmesriikide seadusandluse järgi. RFDs käsitleti ainult piiratud hulka teavitusformaalsusi, mistõttu säilisid piirkondlikud erinevused, takistades infovahetuse digitaliseerimist ja harmoniseerimist. Kohati tekkis topeltaruandluse kohustus laevadele nii RFD kui liikmesriigi seaduste järgi, mis ei olnud harmoniseeritud RFDga lisa osa C põhjal.

Euroopa Komisjonis on tekkinud arusaam, et RFD teavitusformaalsuste piiratud ulatus takistab harmoniseerimist ja soodustab topeltraporteerimist. Laiendades RFD teavitusformaalsuste ulatust ja määratledes elemendid, mille esitamist saab nõuda, on võimalik raporteerimist lihtsustada ja halduskoormust vähendada. Euroopa Komisjon on algatanud protsessi, mille käigus analüüsitakse teavitusformaalsusi ja väga tõenäoliselt vajalikke õigusaktide muudatusi, eelkõige RFDd silmas pidades.

Esile kerkinud probleemi lahendamiseks on võimalik rakendada kolme meedet:

1.   revideerida ja harmoniseerida liikmesriikide seadusandlust;
2.   lisada tolli ja kauba teavitused RFD reguleerimisvaldkonna alla;
3.   piirata erinevate teavituselementide hulka ja vormi.

Hüpotees 3 – piiratud koostöö ELi üleselt ja liikmesriikide asutuste vahel

Koostööd võib vaadelda kitsas ja laias perspektiivis. Ühelt poolt on teavitusformaalsused liikmesriigiti erinevad ja teiselt poolt on variatsioone ka ühe liikmesriigi sees, näiteks sadamate vahel. Vähene koostöö teavitusformaalsuste seadmisel ja mittevastavused on soodustanud topeltraporteerimist. Vähene koostöö takistab soovitud kasu saavutamist, seda nii liikmesriikide ametiasutuste kui ka laevandusega seotud ettevõtete puhul. Koostöö on vajalik, et luua juurdepääsu esitatud andmetele ja konsolideerida teavitusformaalsuseid mitmetest valdkondadest (tolliinfo, kaubamanifestid). Esmaseid teavitusformaalsusi toetavad keskkonnad katavad ainult piiratud hulka vajadusi. Uued initsiatiivid (nt e-Manifest) püüdlevad terviklikuma lähenemise poole, kuna sinna on kaasatud ka tolli ja kaubamanifestide info. Eesmärk on vastata laiema sihtrühma vajadustele, mis aitab vältida mitmekordset samade andmete esitamist.

Koostöö toetamiseks näeme kaht peamist alternatiivi:

1. reeglite ja õigusaktide tugevam jõustamine, et vähendada sõltuvust koostööst;
2. koostöö Rahvusvahelise Mereorganisatsiooni (IMO) tasemel, et luua globaalne standard.

Hüpotees 4 – Õiguslik alus on ebapiisav andmete taaskasutamiseks ELi tasemel

Laevandusettevõtted kannavad korduva raporteerimisega kaasnevat halduskoormust iga liikmesriigi suhtes eraldi ja peavad ka ühe riigi sees mitu korda samu andmeid esitama. Liikmesriigid on sisse seadnud oma protsessid ja infosüsteemid, mis vastavad kohalikele vajadustele, kuid andmete taaskasutamine teistes riikides eeldab andmeelementide, nende kogumise ja sisu osas ühtseid standardeid. Juhul kui edastatav informatsioon on kohalikus keeles, võib ka sellest kujuneda takistus andmete taaskasutamisele.

Andmete taaskasutamine on seotud ka isikustamata andmete vaba liikumisega. Intervjuude käigus toodi esile, et üks probleem on liikmesriikide seadusandlus, millega nõutakse andmete talletamist ja töötlemist nende territooriumil. Vastavasisuline ettepanek regulatsiooni loomiseks on hetkel väljatöötamisel. Juhul kui see antud hetkel sätestatud kujul jõustub, saavad liikmesriikide ametiasutused õiguse pääseda ligi teistes riikides kogutud andmetele, et teha reguleerivat kontrolli. Lisaks sellele tekib mehhanism, mille kaudu on võimalik juurdepääsu järk-järgult laiendada. Regulatsiooni jõustamine loob kindlama aluse andmete taaskasutamiseks ja korduva raporteerimise vähendamiseks.

Andmevahetusstandardi määratlemine võimaldab ametiasutustel taaskasutada infot ja vähendada asutuste ja laevandusettevõtete koormust. Seeläbi peaks saama laevandusettevõtted andmeid esitada üks kord ja seejärel ainult andmete muudatusi. Tehniliste nõuete ja standardite täpsustamisel muutuvad andmed lihtsamini edastatavaks ja olemasolevaid süsteeme saab ühendada. Standardiseerimine on vajalik, et vahetada ka tõendusväärtusega andmekomplekte. Andmete taaskasutamise võimaluste tekkimine ei tähenda, et kohalikul tasemel ei oleks võimalik andmeid täiendada vastavalt liikmesriikide vajadustele.

Esile kerkinud probleemi lahendamiseks on võimalik rakendada kahte meedet:

1. taaskasutatavate andmeühikute määratlemine;
2. andmete vaba liikumise takistuste kõrvaldamine ELi sees.

Hüpotees 5 – ELi direktiivide rakendamise ulatus varieerub ning liikmesriikide seadusandlus ja praktikad on erinevad

Euroopa Komisjoni 2104. aasta RFD staatusraportis tuuakse välja, et liikmesriigid kasutavad erinevaid SafeSeaNet juurutamise tagajärjel loodud platvorme ja elektroonilisi keskkondi, et võtta vastu ning edastada teavitusformaalsusi. RFDga määrati liikmesriikidele kohustus luua ühtsed liidesed (*National Single Window*). Juhised ühtsete liideste loomiseks avaldati 17.04.2015, kuid need ei pakkunud lahendust koosvõime küsimustes. Juhised avaldati liialt hilja, kõigest mõned kuud enne ühtsete liideste juurutamise tähtaega. Selleks hetkeks olid liikmesriigid oma ühtsed liidesed juba loonud ja juurutanud seal teavitusformaalsused. Mitmed olulised küsimused olid jäetud liikmesriikide otsustuspädevusse ning muudatusteks ja koostööks jäi väga vähe aega. Juhiste kohaselt pidi iga liikmesriik oma ühtse liidese arhitektuuri üle ise otsustama.

Viivitus juhiste avaldamisel koos puuduliku koordinatsiooniga RFD teavitusformaalsuste rakendamisel viis olukorrani, kus liikmesriigid hakkasid kasutama teavituste edastamiseks oma keskkondasi. Mõned liikmesriigid laiendasid oma SafeSeaNeti süsteemi ja lisasid sinna RFD teavitusformaalsuste funktsionaalsuse, misläbi see muutus ühtseks liideseks. Teised liikmesriigid rajasid uue süsteemi RFD teavitusformaalsuste vastuvõtmiseks, kuid seejuures ei tehtud hästi toimivat liidestust SafeSeaNeti süsteemiga. Kolmas lähenemine oli luua uus keskkond, kuhu konsolideeriti SafeSeaNeti funktsionaalsus, RFD teavitusformaalsused ja kohalikust seadusandlusest tulenevad nõuded.

RFD rakendamine ebaõnnestus liikmesriikide erinevate praktikate ja vähese koostöö tõttu ning ei ole tekkinud ühtset keskkonda, mille kaudu saaks täita kõiki meretranspordi raporteerimise kohustusi ja vahetada informatsiooni liikmesriikide vahel. RFD teavitusformaalsuste laialdane kasutamine ebaõnnestus mingil määral kolmel tasandil: ELi, liikmesriikide ja kohalikul tasandil.

Kuna digitaalallkirju vastastikuselt ei tunnustata, takistab ka see teavitamisformaalsuste elektroonilist täitmist ja informatsiooni edastavate isikute tuvastamist.

Tekkinud probleemide lahendamiseks on järgmised võimalused:

1. töötada välja ja sätestada üks harmoniseeritud liides, mille kaudu teavitusformaalsusi puudutavat informatsiooni on võimalik edastada kõigile asjassepuutuvatele isikutele nii ELi, liikmesriikide kui kohalikul tasandil;
2. kehtestada tehniline standard NSWde jaoks, mis võimaldab harmoniseeritult informatsiooni vahetada ja taaskasutada ELi tsentraalse süsteemi abil;
3. tunnustada digiallkirjastamise lahendusi ning võtta vastu automaatselt edastatud ja kinnitatud informatsiooni;
4. vaadata üle liikmesriikide regulatsioonid, mis käsitlevad kohustust teavitusi käsitsi allkirjastada ja neid muuta.

Hüpotees 6 Puudub ühtne andmekaitse ja isikuandmete kaitse reeglite tõlgendus

Isikuandmete kaitse üldmääruses (GDPR) nähakse takistust riikidevahelisele andmevahetusele, antud juhul puudutab see eelkõige meeskonna ja reisijate isikuandmeid. GDPRi vastu eksimine võib omakorda tuua kaasa sanktsioonid puudulike rakendamise ja tõlgendamise juhiste tõttu. Sarnane olukord oli ka ühtsete liideste (NSW) loomise käigus, kui juhised avaldati alles vahetult enne rakendamist.

Lisaks isikuandmete kaitsele tuleb tegeleda ka kriitilise infrastruktuuri ja võrgu kaitsega seotud küsimustega ning määratleda andmete avaldamise raamistik. GDPRile vastavalt tuleb defineerida, mida saab teavituste puhul käsitleda isikuandmetena, millist informatsiooni saab jagada ja mida mitte. Tekkinud olukorras võib liikmesriikides esineda probleeme andmete jagamisel teiste liikmesriikidega, eriti kui pole kindel, et teine pool on võimeline edastatud andmeid kaitsma.

Isikuandmete kaitse osas on vaja selgust, et tekiks kindlustunne: pool, kellele andmeid edastatakse, rakendab kõiki vajalikke meetmeid ja tagab, et andmeid töödeldakse, lähtudes konfidentsiaalsuse, terviklikkuse, kvaliteedi põhimõtetest ning edastatakse ainult õigustatud osapooltele. Juhul kui on kindel, et kõik rakendavad GDPRi vastavalt regulatsioonile, ei pea liikmesriigid seda kahepoolselt kontrollima ja nad saavad lähtuda üldmäärusest.

Hüpotees 7 – Riiklike ja ELi huvide erinevus meretranspordi dokumentide digitaliseerimisel

Euroopa Liit koosneb 28 liikmesriigist, sellest tulenev mitmekesisus on liidu üks suuremaid tugevusi ja nõrkusi. Avatud siseturg pakub enneolematuid majanduslikke võimalusi, kuid samas tuleb teha riikide vaheliseks koostööks ja konsensuse loomiseks suuri pingutusi. RFD väljatöötamise faasis ilmnes, et seda ei ole võimalik rakendada viisil, mis annaks parima tulemuse. Seetõttu tehti direktiivi kehtestamisel kompromiss ja otsustati seda hiljem revideerida. Konsensuse leidmine on keeruline ka liikmesriikide sees erinevate huvitatud osapoolte tõttu. Üldiselt jagunevad osapooled kaheks – ühed soovivad meretranspordi digitaliseerimisega edasi liikuda ja võtta kasutusele rohkem e-lahendusi, teised oodata, et hetkel rakendatud lahendused ära tasuksid.

Liikmesriigid osalevad mitmetes pilootprojektides, mille käigus arendatakse uusi laevandussektorit toetavaid tarkvaralahendusi. Intervjueeritavad juhtisid tähelepanu sellele, et ainult osa liikmesriike on projektides aktiivsed. Lisaks on ainult osa neist, kes projektides osalevad, tõeliselt huvitatud lõpptulemustest. Osalejate piiratud aktiivsuse tõttu saavutatakse loodetud väärtus vaid osaliselt. Sellest hoolimata on pilootprojektid vahend, mille kaudu huvi tekitada ja läbi edulugude on võimalik kõigile tõestada meretranspordi e-lahendustest saadavat kasu.

Erinevate liikmesriikide kaasamiseks on kaks peamist võimalust:

1. survestada liikmesriike koostööle regulatiivsete aktide kaudu;
2. luua konsensust pilootprojektidest tekkivate edulugude kaudu.

Hüpotees 8 – E-lahenduste ja komponentide segregatsioon takistab merenduse andmete töötlemist

Erinevused e-lahenduste arhitektuuris takistavad nii andmete sisu, detailsuse kui ka formaadi integratsiooni; standardimine on vajalik andmevahetuse loomiseks. Sadamatel ja ametiasutustel on mitmeid pärandsüsteeme ja riigi sees kasutatakse erinevaid süsteeme. Tuleks luua ja ühtlustada reeglid, millele süsteemid peaksid vastama, et andmeid saaks vahetada.

Ühtlasi esineb andmeelementide segregatsioon. Intervjueeritavad juhtisid tähelepanu, et ühte elementi kirjeldatakse ja defineeritakse riigiti erinevalt. Andmeelemendid on vaja üle vaadata, hinnata nende vajalikkust ning need standardiseerida. Laevandussektori ettevõtete silmis ei ole kõik teavitusformaalsused vajalikud. On loodud juhend, kus on nimetatud andmekomplektid, mis pole kohustuslikud, kuid nende elementide rakendamine on ühtsetes liidestes varieeruv.

Võimalik lahendus on luua üks keskne ELi kontaktpunkt (hetkel arendatakse selle eesmärgil EMSWd), kus on ühtlustatud arhitektuur ja standardiseeritud andmed ja seega on võimalik kvaliteetselt andmeid vahetada. Sarnast standardiseerimisel põhinevat lähenemist on võimalik kasutada ka liikmesriikides.

Hüpotees 9 – Vastastikuse koosvõime ja ühendatavuse puudumine transpordiga seotud elektrooniliste platvormide vahel ning elektrooniliste transpordi dokumentide mittetunnustamine segavedude transpordiliikide vahel

Segavedude valdkonna peamised probleemid on tingitud elektrooniliste transpordisüsteemide platvormide koosvõime ja ühendatavuse puudumisest ning eri transpordiliikide elektrooniliste dokumentide mittetunnustamisest. Segavedusid puudutavad nii kauba kui reisijate andmed peavad olema eri veoliikide vahel elektrooniliselt kättesaadavad. Nutikas segavedude dokument, mis vastab ELi reeglitele, on tähtis element, mis toetab kaubaveo transpordikanalite planeerimist ja andmete edastamist. Segavedude teavituste digitaliseerimist ei takista mitte standardiseeritud elektrooniliste dokumendiformaatide puudumine, vaid nende üleküllus ja koostoime puudumine ning mittetunnustamine. Välja on töötatud digitaalsed dokumendiformaadid merenduse konossomendi, maantee saatelehe, lennuveokirja, raudteeveo saatekirja jaoks, mis on mõeldud just segavedude info edastamiseks. Seetõttu ei ole uue dokumendiformaadi väljatöötamine ainult ühele ELi piirkonnale hea lahendus. Ei ole vaja erilahendust ELi sisese kaubaveo jaoks, vaid iga selline lahendus peaks vastama globaalsetele vajadustele.

Transpordisektorit toetavad süsteemid peavad võimaldama segavedude vahelist kaubavahetust transpordi käigus ja andmete korduvkasutamist erinevate transpordiliikide puhul. Seetõttu peaks ELis kasutatavad standardid olema vastavuses rahvusvaheliselt kaupade transpordil kasutusel olevatega. E-Manifesti projekti käigus välja töötatav lahendus võib saada rahvusvaheliselt tunnustatud platvormiks. Laiaulatuslik infosüsteemide standardiseerimine on vajalik, et luua koosvõime, vahetada andmeid ja vähendada halduskoormust, mis seostub segavedude valdkonnaga.

Teised meretranspordi digitaliseerimist mõjutavad õigusaktid

Anname ülevaate meretranspordi digitaliseerimise ja e-lahenduste laiema kasutuselevõtu takistustest, mis tulenevad teistest õigusaktidest. Peatükis kirjeldatakse takistusi, mis seonduvad direktiividega 2000/59/EÜ, 2009/16/EÜ ja 2005/45/EÜ.

Euroopa Parlamendi ja nõukogu direktiiv laevaheitmete ja lastijäätmete vastuvõtmise seadmete kohta sadamates (Port Reception Facilities Directive [2000/59/EC])

Direktiiviga laevaheitmete ja lastijäätmete vastuvõtmise seadmete kohta sadamates tahetakse vähendada laevaheitmete laskmist merre. Selle eesmärgi täitmiseks peavad laevad edastama infot jäätmete tüübi ja koguste kohta, mis sadamasse ladustatakse ja mis laeva jäävad. Direktiiviga sätestatakse vastavate jälgimise ja raporteerimise süsteemide loomine, mille kaudu on võimalik infot vahetada.

Selleks, et halduskoormust vähendada ja muuta sadamates kasutatavate jäätmete vastuvõtmise seadmete kasutamist tõhusamaks, võiks loobuda kohustuslikust eelteatest, vältida ebaoluliste teavituste edastamist ja

edastada kõik vajalikud andmed RFD teavitusformaalsuste käigus. Lisaks tuleks vähendada bürokraatiat vabastuste saamisel (PRF art. 9) ja selleks tuleks kehtestada ühtne lihtsustatud protseduur andmete esitamisega NSWsse.

Euroopa Parlamendi ja nõukogu direktiiv, mis käsitleb sadamariigi kontrolli (Port State Control Directive [2009/16/EC])

Direktiiviga soodustatakse mitmekordset andmete esitamist olukorras, kus liikmesriik nõuab laevalt täiendavaid andmeid, lähtudes direktiivist ja liikmesriigi seadustest, kuigi mitmed nõutavad andmeelemendid tuleb esitada RFD lisa osade A ja B alusel.

Sadamariigi kontrolli direktiivi art. 13.1.(a) sätestatakse kohustus, et teatud laevasertifikaate ja -dokumente peab hoiustama originaalidena laevas. Sellele viitab ka fakt, et nimekirjas on dokument nr 18 puhul välja toodud, et selle puhul võib kasutada koopiat. Tehniliselt on võimalik hoida kõiki nimetatud dokumente elektroonilisel kujul laevas olevas arvutis ja vajadusel neid trükkida. Paraku ei ole elektroonilise hoiustamise vastuvõetavus direktiivis selgelt kirjas – sätestatakse pigem, et laeval peab olema originaal.

Soovitame korrigeerida art. 13.1.(a), et muuta elektroonilisel kujul olevad dokumendid vastuvõetavaks. Sadamariigi kontrolli direktiivi saab korrigeerida ka nõude osas, mille kohaselt tuleb esitada teatud informatsioon 72 tundi enne sadamasse saabumist. RFD art. 4 sätestatakse kohustus edastada informatsioon 24 tundi enne sadamasse saabumist. Tuleb ühtlustada erinevused kahe direktiivi vahel, millal peab laev vastava teate enne sadamasse saabumist edastama.

Euroopa Parlamendi ja nõukogu direktiiv, mis käsitleb liikmesriikide poolt välja antud meremeeste tunnistuste vastastikust tunnustamist (Mutual recognition of Seafarers Certificates Directive [2005/45/EC])

Meremeeste tunnistuste vastastikuse tunnustamise direktiivi toetamiseks haldavad liikmesriigid registreid, kus on kirjed sertifikaatide ja nende kehtivuste kohta. See tähendab, et vajalik informatsioon on elektroonilisel kujul registris ja selle saaks teha elektroonilisi kanaleid pidi kättesaadavaks teiste liikmesriikide pädevatele isikutele ja agentuuridele. Lisaks on võimalik sertifikaadi koopia trükkida paberile. Alternatiivne lähenemine on väljastada ainult elektroonilisi sertifikaate.

Elektroonilistele sertifikaatidele üleminek on võrreldes senise lähenemisega radikaalne dokumendivormi muudatus, kuid see oleks endiselt direktiivi vaimus ja ei muudaks nõudeid sisuliselt.

Executive summary

This analysis focuses on the following research questions:

1. What are the main **legal obstacles** in EU legislation that hinder digitalisation of documents and a deployment of an e-solution in maritime transport? What additional new legislative acts are needed to promote deployment of e-solutions in maritime transport? The scope of regulation, content and objectives of the new regulatory act must be described.
2. What EU regulatory acts must be revised in order to improve **intermodal data exchange**?
3. What are the impacts, limitations and opportunities of **General Data Protection Regulation** (GDPR) on information shared in maritime transport? GDPR should be analysed in the context of the report once-only principle and better re-use of information.
4. What are the **political and technological bottlenecks** that hinder the deployment of e-solutions in maritime transport? What are the possible solutions to those bottlenecks?

Digitalisation and the use of e-Solutions in maritime transport was introduced to the EU through the following directives:

- Vessel Traffic Monitoring and Information System Directive (2002/59/EC) – referred to as VTMIS Directive or VTMIS and
- Reporting Formalities Directive (2010/65/EU) – referred to as RF Directive or RFD.
- Port State Control Directive (2009/16/EC)
- Port Reception Facilities Directive (2000/59/EC)
- Mutual Recognition of Seafarers´ Certificates Directive (2001/25/EC)

The project comprised three stages. Initially, a research team postulated several hypotheses about the obstacles that they validated during the project. Information gathering was focused on the available documentation and expert interviews with stakeholders from the European Commission, the European Community Shipowners' Associations, the European Maritime Safety Agency and the Danish Maritime Authority. The next step was contacting relevant experts and agreeing interview times. The interviews were tailored for each individual, based on the organisation and their specific expertise. Data gathering was followed by analysis to determine the bottlenecks of maritime transport digitalisation and proposing solutions that were compiled into the report. At the beginning of report, there are executive summaries – both in Estonian and in English. This is followed by an introduction to the project and its goals and methodology. The core of the report was structured according to the postulated hypotheses and their solutions. The hypotheses were divided into three categories: legal, political and technological bottlenecks. Multimodal transport was also addressed in a separate chapter.

Hypothesis 1 – The lack of harmonised digitalisation rules regarding information requested by the EU and MS

The tool for simplification of reporting formalities under RFD was the digitalisation of relevant information and electronic data exchange between EU institutions, MSs and MSs' relevant authorities. There is an imminent need for digitalisation of information to enable its electronic sharing on the basis of reporting formalities and certain uniform principles for such digitalisation, in order to make information sharing possible. This has neither been achieved in MSs and its authorities, nor by EU institutions.

A single window, used for transmission of reported information to various competent authorities and the MSs, should be a **harmonised digital environment** linking SafeSeaNet, e-Customs and other electronic systems. They should have corresponding **technical specifications for electronic interfaces**, in order to enable the transmission and sharing of reported information between one another. Despite a reference to **the electronic transmission of information standard** in RFD art.1 paragraph 1, this does not introduce technical specifications for the electronic interface. RFD did not provide solid basis for a harmonised digital environment to be established as an electronic single window by the MSs for submission and sharing of ships' related reporting formalities. MSs established and developed its national single windows on the basis of their own platforms, which led to the current situation, whereby 22 different national reporting environments work with

different standards. This is a long way away from the simplification and harmonisation that was expected from RFD.

It is possible to reduce the information requested in reporting formalities and thus shorten the list of data elements without harming safety and other relevant rules. This can be achieved by revising some articles of maritime directives and, in this way, giving freedom for more harmonisation of reporting formalities.

We perceive three main solutions and propose corresponding initiatives. The main solutions are: harmonisation of data elements, harmonised implementation of EU legal acts and determining relevant information for reporting.

Hypothesis 2 – Request of documents in a certain format by Member States

There was an attempt by the Commission and MSs to establish a coordinated and harmonised digital reporting formalities system for RFD Annex Part A and Part B listed formalities, however **Annex Part C permitted information requests from ships according to national legislation of the MSs various administrations remained untouchable and thus were not harmonised at all**. This is the **main cause of RFD failure**, which created the possibility for double-reporting and a increased reporting burden for the industry, contrary to RFD's purpose.

The limited scope of reporting formalities, stipulated in RFD (only categories of reporting formalities as set in Annex Part A and Part B which to be simplified and harmonised), is **an obstacle for harmonised digital reporting formalities** within the entire EU, because this does not enable badly needed harmonisation, which is an assumption for efficient electronic information sharing and exchange.

The Commission have realised by now that the limited scope of reporting formalities prevents needed harmonisation of digital maritime reporting and enables double-reporting, which should be avoided in order simplify and reduce the administrative burden. On 28 July, 2017 – the Commission initiated the Inception reporting assessment, regarding reporting formalities for ships.

We perceive three main solutions and propose the corresponding initiatives. The main solutions are: the revision and harmonisation of MS' relevant laws, inclusion of cargo and customs formalities in reporting, and limit the scope of information that can be requested.

Hypothesis 3 – The lack of sufficient collaboration between relevant EU and MS institutions

The issue of collaboration and coordination can be described from both a wide and narrow perspective. There is variation of reporting requirements between different member states. On narrow scope, there is variation at a single member state level, as demonstrated by the variation of reporting requirements amongst ports and authorities. Lack of coordination in concurrence with disharmonised reporting requirements has led to double-reporting.

With limited collaboration result is variances on reporting requirements. This in turn makes re-use of data more difficult as well as reporting only once. Collaboration issues also limit the benefits that can be obtained by member states, various authorities and shipping companies. Coordination is needed for access to reported data and consolidation of reporting requirements. Initial reporting solutions addressed only part of the needs and left out part of the information, i.e. customs. New initiatives, like eManifest, project a focus on customs information and collaboration. The goal is to address the needs of the larger number of authorities – if left unchanged it will be difficult to eliminate double-reporting.

In order to enforce collaboration, we propose two main alternatives: 1) enforce the rules on reporting, leaving less room for variation, thereby reducing the need for collaboration; 2) collaborating in the IMO, in order to achieve harmonised data exchange globally.

Hypothesis 4 – The lack of a basis for the re-use of electronic data at EU level

Shipping companies bare the weight of multi-reporting to each MS separately, therefore issuing the same data several times, sometimes even within one state to different authorities. MSs not sharing the information between other MSs and local authorities brings an extensive administrative burden on shipping companies and ship agents. Over the years, MS administrations have implemented procedures and information systems to fulfil local needs. Re-use of data requires standards for data elements and representation.

Re-using data requires information to be collected in a manner and delivered in a way that's understandable internationally. On the MS level, the official language used is regulated locally and forwarding data received in the local language requires translating the information to another language.

Re-use of maritime reporting data is closely related to the free flow of non-personal data. Interviewees indicated that there are legislations in place at MS that requires data localisation. Meaning that processing and storage of data must be done in the same MS as it was gathered. There is proposal for a regulation of the European Parliament and of the Council on a framework for the free flow of non-personal data in the European Union, which would empower national competent authorities with a right to access non-personal data in another MS for regulatory control. In addition, it gives the formal option to request assistance in order to gain access to the data. Through the enforcement of this regulation, competent authorities will gain a stronger basis to re-use the data and decrease double-reporting.

When defining and adopting a unified data reporting format in the maritime industry, the MS can use a central source of information across local authorities, reducing the overheads of both administration and shipping companies and avoiding their need to make several data submissions. Shipping companies can diminish multi-reporting to numerous authorities by only reporting changes of ship or cargo information or provisions according to the state or authority.

Specifying reporting standards and technical requirements ensuring data transferability opens the possibility to interconnect existing information systems and re-use the data within them. In addition to technical requirements, the content of the data needs to be standardised to move unequivocal datasets. The content of data, re-used across the EU, needs to be defined as the baseline that each MS can complement, as required at the local level. Re-use of data on the EU level would not replace or limit local information sources, leaving room for local provisions and flexibility in reporting formalities.

Hypothesis 5 – The different extent of implementation of EU directives by MS institutions and the variations of national practices and legislation

The Commission 2014 status report indicated that MSs have different platforms and environments for digital receipt and transfer of reporting formalities, established with the implementation of SafeSeaNet. Following RFD's implementation and the requested establishment of the national single window in 2014, many MSs were waiting for technical EU specifications and a common standard. The National Single Window Guidelines, published on 17 April 2015, did not sufficiently answer the questions posed and did not resolve interoperability problems. The NSW Guidelines came out too late, just a few months before RFD's implementation deadline (1 June 2015). By then MSs had completed the implementation of reporting formalities and NSW systems. Many important issues were left for MSs to decide in the NSW Guidelines, with very little time left for either changes in single window systems, or collaboration and cooperation. NSW Guidelines accepted that each member state had to determine the national architecture of its single window.

This delay with the Guidelines and lack of clear coordinated RFD implementation recommendations created a situation whereby every MS used or established their own electronic systems and digital reporting environments for national reporting. Some MSs extended their national SafeSeaNet system to include their reporting formalities according to RFD. In this approach, national SafeSeaNet became a single window requested by RFD. Another approach of MSs was closely following the RFD wording as a prime source of new digitalised reporting and these MSs established a new single window environment for maritime reporting formalities. This created the second electronic system related to maritime transport reporting, next to national SafeSeaNet – which was established earlier for maritime safety reporting in accordance with VTMIS. The third approach was to establish a new single window for more harmonised maritime reporting overall, which covers

maritime safety reporting under VTMIS SafeSeaNet, RFD reporting formalities (as requested in Annex Part A and B) and, as much as possible, national and local reporting formalities, bringing them into a single window reporting system (in compliance with RFD Annex Part C).

This failure is due to different national practices and weak collaboration in establishing a harmonised digital interface based on national single window and SafeSeaNet, which could finally gather all relevant reporting formalities in maritime transport and make this information available and re-usable for all MSs and their relevant institutions, which, in this way, enables the following of the report only once principle within EU. Unfortunately, to some extent, RFD implementation failed at all levels.

We perceive four main solutions and propose corresponding initiatives. The main solutions are as follows: to establish a harmonised EU reporting interface, through which all information is received via reporting formalities; to provide technical standards for NSW; to facilitate and extend the recognition of electronic signatures by MSs and establish a respective common validation system; and to review and revise national legislation by MSs regarding requirements for signing in personal documents.

Hypothesis 6 – The lack of a common interpretation of data protection and data privacy rules in the EU

GDPR is perceived as an obstacle to sharing data cross borders, especially concerning crewmember and passenger data. GDPR is perceived as a risk, due to unclear implementation guidelines and, without guidelines, the regulation might be interpreted as a restriction on data sharing. With GDPR enforcement less than a year away, there are no guidelines on its implementation. A similar situation occurred with the implementation of NSWs. When guidelines for NSW were published less than three months before the NSW implementation deadline.

Beyond personal data regulation, the specific focus areas of critical infrastructure and network protection have been addressed and regulated and this is needed for defining a data publication framework, along with information security regulation. Whereas the perception of personal data definition is being clarified with GDPR and a number of procedures are required to protect them, such grounds have not been laid regarding public and non-public data, or information (cyber) security. MS can be concerned with data protection and issuing the data to another MS when data protection regulation and responsibility is unclear on applying measures to ensure its protection.

Developing a harmonised data protection comprehension and approach will allow MS to be confident that the data will be processed by the principles of confidentiality, upholding data integrity and quality, and intended availability for authorised parties. With the assurance by EU rules for data processing, MS are released from the responsibility of assuring cross-border data processing compliant to both local and target MS regulation. Shipping companies are released from the responsibility of adapting specific rules to each member state to the current extent and can rely on the EU regulation baseline.

Hypothesis 7 – The divergence of national and EU interests in the digitalisation of maritime documents

The European Union is composed of 28 member states. This multitude of nations has been both its greatest strength and greatest weakness. The open internal market allows unprecedented economic opportunities, yet at the same time, cooperation and consensus finding is quite difficult. During the development of RFD, finding consensus was impossible and the decision was made to move on with RFD to create an initial directive. The objective was later set to evaluate and improve it. The difficulty of building a consensus is increased by the fact that inside member states there are various stakeholders with different interests, so while some of them prefer increased deployment and harmonisation of e-solutions within maritime transport, the others prefer to wait until current investments give sufficient return.

EU member states are participating in several pilot projects to develop digital maritime solutions in order to decrease the administrative burden, increase efficiency and increase safety. Interviewees participating in those projects have pointed out that only part of the member states are participating. From the ones that do, there is a divergence so that only part of them are active and have real interest in the outcome of the pilot project, while

others take on a more passive role. As a result, the benefits are only partially achieved. In the long term, this is used to set positive examples of success stories.

In order to coincide the interests there are two main options – 1) force cooperation via regulatory acts or; 2) build a consensus and demonstrate the benefits of digitalisation and e-maritime solutions.

Hypothesis 8 – The segregated components of information systems implemented in maritime data processing

A different architectural approach poses obstacles for integration on several levels, such as content, detail and data format, which needs to be standardised as a prerequisite for sharing data. Ports and administrations have different platforms and legacy systems that require adjustments before being able to receive or share data. In order to simplify and enable efficient development of data exchange via electronic channels, a set of unified technical requirements should be adopted.

Related to the segregation of components there is the segregation of data elements. Interviewees indicated that data elements that ships need to report vary from one country to another. There is need to review data elements, their standardisation and business value, so that all that is required would actually be needed by the authorities and it should not contain unnecessary elements. There is the non-mandatory Data Mapping Report, which establishes data elements that should be implemented in an NSW environment. Being non-mandatory, individual NSW have variances on data elements and guidelines were published too late to be implemented into NSW environments before the deadline.

Unifying the principles and core components used for data exchange in the centralised EU information system would enable a more coherent data flow. This can be achieved by creating technical standards and components for the international information system to ease transfer and translate the data between the components. This can be done either by motivating local administrations to develop the local components using a standardised logical architecture, or compensating the lack of them, creating a central system to be used across the EU.

Hypothesis 9 – The lack of interoperability of electronic transport-related platforms and the non-recognition of electronic transport documents by public and private stakeholders in multimodal transport

Information on all modes of transport, both for travel and freight, on possibilities for their combined use and on their environmental impact, will need to be widely available. Smart intermodal ticketing, with common EU standards that respect EU competition rules is vital. This relates not only to passenger transport but also freight, where better electronic route planning across modes, adapted legal environments (intermodal freight documentation, insurance, liability) and real time delivery of information, for smaller consignments also, is needed.

What hinders digitalisation in multimodal transport is not an absence of electronic transport documents evidencing the contract of carriage or conveying title to the goods. Bill of Lading (B/L), Road Waybill (CMR), Air Waybill (AWB), Rail Waybill (CIM) have all their electronic formats or versions available and so has FIATA Bill of Lading, a document developed by the *International Federation of Freight Forwarders Associations* and designed to be used as a multimodal or combined transport document with negotiable status. Creating a new electronic inter or multimodal electronic transport legal regime or document covering EU territory would therefore not solve the problem of the low level of digitalisation in intermodal transport. Any initiative on the EU level should not be restricted to intra-EU transport but should also cover inbound and outbound EU transport.

The major problems causing the low level of (intermodal) transport digitalisation are lack of interoperability of EU electronic transport-related platforms and non-recognition of electronic transport documents by public and private stakeholders.

The **systems must be interoperable, allowing the re-use of the data between different transport modes** and in this way avoiding the administrative burden occurring, providing the same data about cargo when the transport mode is changed.

Therefore, it is strongly recommended for the EU that the standards set out under the eIDAS should ensure the links and compliance with the existing global standards in order to be well prepared for global digitalisation of transport documents, which is most relevant for maritime and air transport.

Developing the digitalisation of documents and the extended use of e-solutions in maritime transport shall facilitate digitalisation and use of electronic documents in multimodal transport. The e-Manifest can become widely acceptable electronic transport document, which can be used in all modes of transport. Harmonisation and unification are needed in the broadest extent for the electronic systems used in the transport sector in order to establish and maintain interoperability, compatibility, use of common standards and the exchange of data between different modes of transport.

Other relevant EU Directives with respect to the digitalisation of maritime transport and the use of e-Solutions

Port Reception Facilities Directive (2000/59/EC)

The purpose of the Port Reception Facilities Directive (hereinafter: "PRF Directive") is to reduce the discharges of ship-generated waste and cargo residues into the sea. To achieve effective use of ports' waste reception facilities, planning of waste reception and monitoring of waste delivery, the PRF Directive requires the use of a notification form identifying the ship-generated waste and cargo residues that are to be delivered or remain on board. The PRF Directive states that MSs and the Commission shall co-operate in establishing the appropriate **information and monitoring system to achieve an effective exchange of information between authorities.**

Based on the above findings, considering the Commission's digital single market policy, the need to limit the administrative burden, avoid undue delays in commercial shipping and grant efficient use of port reception facilities, the following amendment suggestions can be made to the PRF Directive: renounce the mandatory form of pre-arrival notification; an exemption procedure, based on data given by shipmasters; avoid unnecessary recording obligations; and make information available to more stakeholders.

The Port State Control Directive (2009/16/EC)

The Port State Control Directive (PSC) notification becomes problematic if the same ship's related data **is requested according to national legislation,** because the same data elements are requested according to the RFD Annex Part A and Part B. This **creates double-reporting** of the same data, which should be avoided by simplification and digitalisation of reporting formalities in maritime transport.

PSC art.13.1.(a), which stipulates that "*...the certificates and documents listed in Annex IV required to be kept on board in accordance with Community maritime legislation and Conventions relating to safety and security.*" This article clearly stipulates an **obligation that certain ship's certificates and documents are to be kept on-board**. Annex IV contains 44 different documents which should be on-board the ship, depending on the ship's type and other specifics. Document number 18 stated: "*...as copy of the Document of Compliance and the Safety Management Certificate*" implies that other documents should be kept in original-form on-board the ship. It is possible to keep all these requested documents electronically (in digital form) on-board and present these during inspection in a computer; however, this is not clearly stipulated in the legal acts.

It is recommended to **amend the art.13.1.(a) in order to make acceptable electronic certificates and documents**, which can be presented on-board the ship in digital form. Another issue to rectify is in the PSC – the request to submit certain information 72 hours in advance, before the expected time of arrival in the port or anchorage in the MS. RFD art.4 made cut this advance notification period down to 24 hours prior to arriving in a port of a MS, however the RFD does not overrule the PSC. Thus, **harmonisation is needed between the RFD and the PSC** to have a simple and clear general rule in place detailing the latest point that advance notices can be requested prior to the arrival of a ship into a port of the MS.

Mutual recognition of Seafarers Certificates Directive (2001/25/EC)

The Mutual recognition of Seafarers' certificates Directive (MRS) stipulates the principals of recognition of seafarer's certificates between MSs. MSs maintain a register of all certificates and endorsements; and they make

available information on the status (validity) of such documents to other MSs. This means that information sets related to the seafarers certificates are stored in electronic format within the register, where they can be quickly and easily made available or transferred to other MSs via electronic channels. A more advanced approach would be that the **information set that proves the qualifications and competence of certain seafarers can be kept in an electronic format from the very beginning, so there's is no need for a certificate on paper.**

Use of digitalised information sets regarding seafarers qualifications and competences, instead of certificate documents, assumes radical amendments and updates of the MRS. Still, these amendments are mostly related to the formal side of the directives application (**a certificate as a document to be replaced by electronic documents**), but does not change the essence of the MRS and its requirements, or standards.

Introduction

Objective of the report

This project is part of the program of the Estonian Presidency of the European Union. The objective of the report is to compile a whitepaper that analyses bottlenecks in the deployment of maritime transport e-solutions and proposes solutions to overcome such obstacles. The Estonian Government Office and Ministry of Economic Affairs and Communication will present this report to EU transport ministers in order to initiate discussion that will provide directions for better use of e-solutions and digitalisation in maritime and multimodal transport.

The report focuses on the following questions:

1. What are the main **legal obstacles** in EU legislation that hinder digitalisation of documents and a deployment of e-solutions in maritime transport? What additional new legislative acts are needed to promote the deployment of e-solutions in maritime transport? The scope of regulation, content and objectives of the new regulatory act must be described.
2. What EU regulatory acts that must be revised in order to improve **intermodal data exchange**?
3. What are the impacts, limitations and opportunities of the **General Data Protection Regulation** on information shared in maritime transport? GDPR should be analysed in the context of the report once-only principle and better re-use of information.
4. What are the **political and technological bottlenecks** that hinder deployment of e-solutions in maritime transport? What are the possible solutions to those bottlenecks?

Context of the report

This analysis of "Legal and political bottlenecks in the European Union for deployment of maritime transport of e-solutions" is part of the program of the Estonian Presidency of the European Union. Estonia has set the development of the European Digital Single Market[1] as one of the goals for the Presidency period. Digitalisation has an impact on several EU policy goals that include employment and economic growth. This goal is applicable in the maritime sector, where the EU envisioned the "e-Maritime: Concept and objectives[2]" in 2007. The concept stands for online interaction of the maritime sector; stakeholders form authorities to the ship owners to increase efficiency and sustainability of waterborne transport systems and the integration of logistic chains. e-Maritime focuses on the following goals:

•   Improved safety, security and environmental performance;
•   Increased competitiveness;
•   Improved working conditions;

Maritime is and has always been the primary transport mode for external trade, reaching over 90% of the total volume. A large share of intra-EU trade is conducted via waterborne transport, reaching up to 32.7% according to Eurostat[3]. The e-Maritime concept was developed further by DG Energy and Transport and is part of the Maritime Transport Strategy, 2009-2018, which states *"...(the) EU's maritime transport system should be strengthened by putting in place an integrated information management system to enable the identification, monitoring, tracking and reporting of all vessels at sea..."* demonstrating the needs for e-services along the

---

[1] COM(2015) 192

[2] DG Energy and Transport 2007 e-Maritime: Concept and objectives 2007 http://www.eau-mer-fleuves.cerema.fr/IMG/pdf/6-2-eMaritime_reflection_paper_CETMEF_101208_cle5a53ad-1.pdf

[3] Eurostat 2017 Freight transport statistics - modal split http://ec.europa.eu/eurostat/statistics-explained/index.php/Freight_transport_statistics_-_modal_split

maritime transport chain. In order to support digitalisation, there was a need for resources that allow e-services, management and control of information[4].

The digitalisation and use of e-Solutions in maritime transport was effectively introduced with two directives:

- Vessel Traffic Monitoring and Information System Directive (2002/59/EC) – referred to as the VTMIS Directive or VTMIS and
- Reporting Formalities Directive (2010/65/EU) – referred to as the RF Directive or RFD.

These directives laid down the core regulation for digitalisation and use of e-Solutions in shipping.

Vessel Traffic Monitoring and Information System Directive (2002/59/EC)

The first main legislative act which clearly aimed for use of digital information and its sharing in shipping was the VTMIS Directive, which was adopted in 2002. The VTMIS Directive's purpose was to establish in the Community a vessel traffic monitoring and information system, with a view to enhancing the safety and efficiency of maritime traffic, as stipulated in its art.1. It introduced an automatic identification system of ships (AIS) and monitoring and voyage data recording (a VDR system, or so-called "black boxes") on ships in order to facilitate investigations following accidents. In addition to AIS and VDR, ships calling at a port of a MS VTMIS Directive established a basis for electronic information sharing and laid the ground for SafeSeaNet – a new environment for the digital exchange of shipping related data. The VTMIS requirements apply to ships of 300 gross tonnage and upwards. VTMIS art.14 (*Computerised exchange of data between Member States*) is stipulated in subparagraph 1 as follows: *"Member States shall cooperate to ensure the interconnection and interoperability of the national systems used to manage the information indicated in Annex I."* Following subparagraph of art.14 stipulated clearly in section (a): *"data exchange must be electronic and enable messages notified in accordance with Article 13 to be received and processed."*

This was a strong basis for electronic information gathering and exchange in shipping which, in this way, was getting to employ the benefits of information technology. VTMIS art. 23 stipulated objectives for MSs' and the Commission's cooperation to develop telematic links between coastal stations and port authorities, to develop and enhance the effectiveness of telematic links between coastal stations and the MSs and to extend the coverage of Community vessel traffic and monitoring systems, where the MSs and the Commission shall work together to put in place, where necessary, mandatory reporting systems and mandatory vessel traffic services, etc.

VTMIS art.13 paragraph 4 section 2 stipulates, *"the information must be transferred electronically whenever practicable. The electronic message exchange must use the syntax and procedures set out in Annex III."* VTMIS Annex III set forth principles of electronic messages to enable transmission, reception and conversation of data between systems. Later on, when SafeSeaNet was in place and well operational, VTMIS Annex III was updated to connect it to RFD and to facilitate SafeSeaNet use as a nodal point between MSs for RFD digital reporting and data exchange. At its adoption in 2002, VTMIS Annex III sec.3 stipulated that these electronic message procedures and infrastructure should incorporate reporting and information exchange obligations resulting from other Directives, such as Directive 2000/59/EC on port reception facilities for ship generated waste and cargo residues[5]. This indicates that, already in 2002, VTMIS had ambitions to have the infrastructure/electronic environment for more extensive and wider-scope data collection and exchange than was stipulated in VTMIS Annexes I and II, which mostly related to vessel traffic monitoring with a safety prospective. The VTMIS Directive was a great success in enhancing digital information gathering and its sharing with relevant authorities.

---

[4] DG Energy and Transport 2008 Maritime Transport Strategy 2009-2018.http://www.zerovisiontool.com/sites/www.zerovisiontool.com/files/attachments/eu_transportstrategy2009.pdf

[5] OJ L332, 28.12.2000 p.81

The Reporting Formalities Directive (2010/65/EU)

Due to the strict and continuous reporting obligation of ships and the required data submissions to various administrations and institutions in EU and MSs, the administrative burden for shipping companies has increased in accordance with the EU legal acts and MSs national legislation and local rules. This has established a need for the facilitation of maritime transport by simplification and harmonisation of administrative procedures to reduce these burdens through various measures, which include digitalisation of reporting formalities. The RFD itself does not establish any reporting formalities, but tries to organise and rationalise existing reporting formalities in shipping, based on various legal acts of the European Community. Its purpose is to simplify and harmonise reporting within maritime transport and make this reporting electronic, instead of paper-based submissions. The RF Directive indicated in its preamble clause (3) which EU directives and legal acts have relevance for RFD applications:

"The transmission of data required upon arrival in and/or departure from ports under Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues, Directive 2002/59/EC of the European Parliament and of the Council of 27 June 2002 establishing a Community vessel traffic monitoring and information system, Regulation (EC) No 725/2004 of the European Parliament and of the Council of 31 March 2004 on enhancing ship and port facility security, Directive 2009/16/EC of the European Parliament and of the Council of 23 April 2009 on port State control, and, where appropriate, the International Maritime Dangerous Goods Code adopted in 1965, with the amendments thereto adopted and having entered into force ...".

The RFD is a horizontal legal instrument containing principles of:

- electronic transmission of data, i.e. digitalisation of reporting,
- reporting once only; and
- data sharing and re-use of data.

The general policy objective of the RFD is to facilitate maritime transport and to reduce administrative burdens for shipping companies which is stated in RFD preamble sec.(2):

"For the facilitation of maritime transport and in order to reduce the administrative burdens for shipping companies, the reporting formalities required by legal acts of the Union and by Member States need to be simplified and harmonised to the greatest extent possible. However, this Directive should be without prejudice to the nature and content of the information required, and should not introduce any additional reporting requirements for ships not already under such obligation according to legislation applicable in Member States..."

RFD article 1 paragraph 1 states, *"the purpose of the directive to simplify and harmonise the procedures by making the <u>electronic transmission of information standard</u> and by rationalising reporting formalities."*

Thus for the facilitation of maritime transport and for the reduction of administrative burdens, the reporting of formalities need to be simplified and harmonised through digitalisation and electronic sharing of relevant information and by these rationalisations. Digitalisation means that reporting of, formalities shall be made electronically, i.e. the relevant data elements of reporting formalities shall be submitted in electronic format and this information shall be made available for all Member States (MSs) via the SafeSeaNet system.

The article 2 section of the RFD (f) stipulates that the digitalisation principle be made applicable for reporting formalities, which follows: *"'<u>electronic transmission of data</u>' means the process of transmitting information that has been encoded digitally, <u>using a revisable structured format</u> which can be used directly for storage and processing by computers."*

Harmonisation is needed also for digitalisation of reporting, because for proper electronic information submission and sharing with other relevant electronic systems, a harmonised data message format and structure (revisable structured format) is needed. Thus, there was a need to develop common technical standards and procedures for digital reporting in compliance with RFD.

Methodology

This project is composed of several stages. Initially, a research team postulated several hypotheses about the obstacles that they validated throughout the project. Information gathering was focused on the available documentation and expert interviews of stakeholders from the European Commission, The European Community Shipowners' Associations, the European Maritime Safety Agency and the Danish Maritime Authority. The next step was contacting relevant experts and agreeing interview times. Interviews were tailored for each individual, based on the organisation and their specific expertise. Data gathering was followed by analysis to determine the bottlenecks of maritime transport, digitalisation and proposing solutions that were compiled into the report.

Hypotheses

We postulated initial hypotheses that hinder the deployment of e-solutions in maritime transport, which are described in detail in the report. The hypotheses postulated are as follows:

1. **Hypothesis 1** - The lack of harmonised digitalisation rules regarding information requested by the EU and MS
2. **Hypothesis 2** – Request of documents in a certain format by Member States
3. **Hypothesis 3** – The lack of sufficient collaboration between relevant EU and MS institutions
4. **Hypothesis 4** –The lack of a basis for the re-use of electronic data at EU level
5. **Hypothesis 5** – The different extent of implementation of EU directives by MS institutions and the variations of national practices and legislation
6. **Hypothesis 6** – The lack of a common interpretation of data protection and data privacy rules in the EU
7. **Hypothesis 7** –The divergence of national and EU interests in the digitalisation of maritime documents
8. **Hypothesis 8** – The segregated components of information systems implemented in maritime data processing
9. **Hypothesis 9** – The lack of interoperability of electronic transport-related platforms and the non-recognition of electronic transport documents by public and private stakeholders in multimodal transport

The hypotheses listed above were used to structure the report. At the beginning of the report there are executive summaries in both Estonian and English. After which, there is an introduction to the project and its goals and methodologies. The core of the report was structured according to the postulated hypotheses and their solutions. The hypotheses were divided into three categories: legal, political and technological bottlenecks. Multimodal transport was addressed in a separate chapter.

Data collection

Information for the study was gathered through interviews with leading experts and stakeholders in maritime transport and policy makers from the European Commission, the European Maritime Safety Agency, the European Community Shipowners' Associations and the Danish Maritime Authority (see Table 1). Interview questions were tailored to each interviewee. The documents that were referred to during the interview were gathered and analysed. The information from interviews was checked via other sources. A list of interview topics can be found in the appendix of the report (see "Appendix 2: List of interview topics").

Table 1. List of interviewees

Name	Institution
Markku Mylly	European Maritime Safety Agency
Jukka Savo	European Commission, DG MOVE

Name	Institution
Lieselot Marinus	European Community Shipowners' Associations
Maximilian Strotmann	Cabinet of vice-president Andrus Ansip
Patrick Verhoeven	European Community Shipowners' Associations
Lazaros Aichmalotidis	European Maritime Safety Agency
Lawrence Sciberras	European Maritime Safety Agency
Anette Dybdal Fenger	Danish Maritime Authority
Steen Møller Nielsen	Danish Maritime Authority

Other major sources of data were documents, reports, studies, analyses and legal acts published by various parties. The documents, reports, studies and analyses were reviewed and taken into account in the process of this analyses preparation. During the initial stages of the project, PwC Italy and Panteia finalised the study "Ex-post evaluation of the Reporting Formalities Directive (RFD) and the directive on Vessel Traffic Monitoring and Information Systems (VTMIS)", which was published by DG MOVE. The objective of the study was to provide the Commission with qualitative and quantitative facts and figures which can be used for the evaluation of the two directives, covering both their implementation and effectiveness. The study was a part of the REFIT process.

The PwC and Panteia 2017 study may be considered as a good introduction to the topic of maritime reporting and allowed our report to focus on digitalisation on the basis of up-to-date evaluation results. As a result of this, the focus of this analysis this report emphasises digitalisation aspects of maritime transport related reporting and legal, political and technological bottlenecks. The PwC and Panteia 2017 study gave a valuable basis for the present analysis by mapping the status of RFD and VTMIS implementation in various MSs and ports. The PwC and Panteia 2017 study is an excellent introduction to this analysis, giving a broader view regarding the present status of implementation of RFD and VTMIS, which laid down a basis for digitalisation in maritime transport, aimed at supporting and simplifying administrative procedures and reducing reporting burdens. Our analysis tries to avoid unnecessary duplication of the PwC and Panteia 2017 study, however the duplication cannot be entirely avoided because this analyses goes deeper and adds more detail to some issues which were brought out in the PwC and Panteia 2017 study. Due to the tender requirements and strong interlinkage of topics in maritime reporting, some duplication was unavoidable. This analysis is recommended to be read in conjunction with the PwC and Panteia 2017 study, which offers a very good illustration of the present state of affairs in reporting formalities within maritime transport. The PwC and Panteia 2017 study[6] demonstrated that:

"…digitalisation has been fully achieved in five out of 16 countries in the sample (in BE, HR, FI, IE, and PT). Therefore, only 32% of the 40 ports in the sample can actually benefit from digital reporting. This implies that in these Member States and ports paper forms, scans of paper forms and other unstructured files (e.g. PDF, DOC, etc.) are not used for reporting formalities."

"The reasons why this objective has been only partially achieved in 28% of ports within the sample vary from situation to situation. Some authorities in question prefer to receive information in their own format even though they have access to the NSW. In some cases digitalisation has been implemented only for some formalities, and finally some countries or authorities require signed formalities but they do not accept (or are not equipped to accept) digital signatures; therefore, the data provider must submit a PDF of a scanned formality with a pen signature."

This is an appropriate introduction to our analysis that digitalisation of reporting formalities in maritime transport has not been sufficiently implemented, in spite of fact that RFD application and measures have been in force for more than 2 years now. There are certainly obstacles and bottlenecks, which hamper digitalisation and the use of electronic solutions in maritime transport and this related reporting. Some obstacles and

---

[6] PwC and Panteia 2017 p 30, https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

bottlenecks in digitalisation are brought out in the PwC and Panteia 2017 study, particularly from the perspective of RFD and VTMIS. However, our analysis is more thoroughly concentrated on digitalisation and the use of electronic solutions in wider terms (not RFD and VTMIS only) within the transport sector, keeping a focus on maritime transport, which is mostly regulated and comes with the highest administrative burden. The benefits of digitalisation and use of electronic solutions can, most likely, give the greatest effect to maritime transport.

Legal bottlenecks

Hypothesis 1 – The lack of harmonised digitalisation rules regarding information requested by the EU and MS

Description of the problem

One important tool for the simplification of reporting formalities under RFD was the digitalisation of relevant information (i.e. data elements of information sets requested by legal acts) and its electronic exchange between relevant EU institutions, MSs and MSs' relevant authorities. There is an imminent need for digitalisation of information for its electronic sharing on the basis of reporting formalities and certain uniform principles for such digitalisation in order to make information sharing possible. This has not been fully achieved in MSs and their authorities, nor by EU institutions. Electronic information sharing between MSs and relevant authorities is a precondition for the re-use of reporting formalities information. "*As there is no binding agreement to share particular data elements at the EU level, even the MSs wanting to re-use the data do not have any other choice than requesting it again when a ship is calling in their port.*"[7]

RFD art.5 paragraph 1 stipulates: "*the fulfilment of reporting formalities shall be in **electronic format** and their transmission via a single window.[8]*"

This makes **electronic reporting** and the exchange of data one of basic tools in simplifying and rationalising reporting formalities in maritime transport. The simplification of reporting formalities can be achieved through rationalisation; in this way, each data element of the reported information set shall not be duplicated in digital reporting forms. The first task with such rationalisation is to avoid data duplication at one port call of the ship. The next task for the longer perspective is to avoid new data requests in the next port call of the same ship in another MS, assuming that the relevant data is not out-dated. For example, data about crewmembers on-board a ship (a crew list with relevant information) should not be entered into the electronic reporting system every time the ship calls in port, because this is re-usable information. The crew changes take place over a longer period of time, when the ship has many port calls with the same crewmembers.

A single window, used for transmission of reported information to various competent authorities and the MSs, should be a **harmonised digital environment** linking SafeSeaNet, e-Customs and other electronic systems.

RFD art.5 paragraph 1 the section 2 states: "*this single window, linking SafeSeaNet, e-Customs and other electronic systems, shall be the place where, in accordance with this Directive, all information is reported once and made available to various competent authorities and the Member States.[9]*"

RFD art.5 paragraph 1 stipulates one main principle for simplification of reporting formalities that all information should be reported once only. This reporting once can be possible when the electronic systems of relevant administrations and authorities exchange the data with a single window, established for maritime reporting. It is obvious that the single window, SafeSeaNet, e-Customs and other relevant electronic systems should have corresponding **technical specifications for an electronic interface**, in order to enable the transmission and sharing of reported information between on another. Despite a reference to **the electronic transmission of information standard** in art.1 paragraph 1 of the directive, it does not introduce technical specifications for an electronic interface. The problems related to the lack of common technical specification

---

[7] PwC and Panteia 2017 p 74 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf
[8] RFD 2010/65/EU
[9] RFD 2010/65/EU

and a standard for information transmission and sharing are analysed in more detail below (see "Hypothesis 8 – The segregated components of information systems implemented in maritime data processing").

RFD art.5 paragraph 3 stipulates interoperability, accessibility and compatibility of the single window and SafeSeaNet as follows:

"Where reporting formalities are required by legal acts of the Union and to the extent necessary for the good functioning of the single window established pursuant to paragraph 1, the electronic systems referred to in paragraph 1 must be interoperable, accessible and compatible with the SafeSeaNet system established in accordance with Directive 2002/59/EC and, where applicable, with the computer systems stipulated in Decision No 70/2008/EC of the European Parliament and of the Council of 15 January 2008 on a paperless environment for customs and trade." [10]

The first sentence of RFT art.6 paragraph 1 introduces the obligation for data exchange for MSs, stating that information received in accordance with reporting formalities should be made available in the national SafeSeaNet system and some parts of such information should be made available to other MSs through the central SafeSeaNet system. This obligation is set forth in art.6 paragraph 1 as follows:

*"Member States shall ensure that information received in accordance with the reporting formalities provided in a legal act of the Union is made available in their national SafeSeaNet systems and shall make **relevant parts of such information** available to other Member States via the SafeSeaNet system."* [11]

RFD and VTMIS do not specify what the relevant parts of the information are, which should be made available to other MSs via SSN. This is a gap, the filling of which needs to be agreed upon and/or regulated at EU level and made applicable to all MSs in a uniform way. In addition to the data exchange obligation via SafeSeaNet systems, stipulated in art.6 paragraph 1, there is also an introduction to the option for MSs to provide access to the same information through national a single window as an alternative to national SafeSeaNet systems. This is stipulated in art.6 paragraph 4 as follows:

"Member States may provide relevant access to the information referred to in paragraph 1 either through a national single window via an electronic data exchange system or through the national SafeSeaNet systems." [12]

The RFD did not provide a solid basis for a harmonised digital environment to be established as an electronic single window by the MSs for submission and sharing of ships related reporting formalities. MSs established and developed their national single windows on the basis of their own platforms, which led to the situation that there is currently 22 different national reporting environments with different standards. This is far away from the simplification and harmonisation that was expected based on the RFD. The different national electronic information environments (NSWs) have made reporting formalities more complex and have confused reporting processes so that there is now more double-reporting instead of once only reporting, which is an aim of the RFD. The problems related to MSs different electronic platforms and/or environments are analysed in more detail later in the analysis (see "Hypothesis 5 – The different extent of implementation of EU directives by MS institutions and the variations of national practices and legislation").

It was crucial for RFD data exchange to harmonise the data set of information and establish uniform data elements to be provided to NSW when fulfilling the reporting formalities according to RFD. The Commission tried to improve the implementation of RFD through harmonisation and coordination of reporting formalities according to art.3 paragraph 2 of RFD. The Commission established the Expert group in maritime simplification and electronic information services (called the "eMS group"). The aim of eMS group was to support MSs to implement RFD in a coordinated manner. eMS group established 8 dedicated sub-groups in

---

[10] RFD 2010/65/EU
[11] RFD 2010/65/EU
[12] RFD 2010/65/EU

order to discuss specific topics and formalities with the relevant administrative authorities. These eMS sub-groups covered all topics of reporting listed in Annex Part A and Part B of RFD[13]:

1. **General Maritime sub-group** covered notifications of arrival and departure (Part A sec.1), notification of dangerous goods (Part A sec.3), FAL form 1 (Part B sec.1), FAL form 7(Part B sec.1).
2. **Customs sub-group** covered entry summary declaration (Part A sec.6), FAL form 2 Cargo Declaration (Part B sec.2), FAL form 3(Part B sec.3), FAL form 4(Part B sec.4).
3. **Waste sub-group** covers notification of waste and residues (Part A sec.4),
4. **Security sub-group** covers notification of security information (Part A sec.5),
5. **Health sub-group** covers maritime declaration of health (Part B sec.8),
6. **Border control sub-group** covers border check of persons (Part A sec.2), FAL form 5(Part B sec.5), FAL form 6 (Part B sec.1).

Six eMS sub-groups were working together with administrative authorities to establish coordinated and harmonised reporting formalities according to the RFD. Two more eMS sub-groups were working with **Data mapping and functionalities** (it will publish its latest Data Mapping Report on July 27 2018 (version: 1.7)[14]) and Single Window and data flow definition.

The eMS Data Mapping sub-group was working with harmonisation of such data sets, however it took time and some data elements were left out of this work, which did not support RFD's proper implementation and the achieving of its purposes. As a first step, the eMS Data Mapping sub-group identified the individual data elements that were to be reported when fulfilling the RFD's reporting formalities.

The eMS Data Mapping sub-group prepared the Data Mapping Report for the Directorate-General for Mobility and Transport, version: 1,6 – Final, which is dated 25 February 2015[15]. This Data Mapping Report 1,6 provides in sec.2.1 in respect of step 1 of their work in identification of data elements as follows:

" ... the EU legal acts were taken as a reference for the formalities of part A of the annex of the Directive, and the FAL Convention and the International Health Regulations for the formalities of part B.
The only formality which is not covered by this task is the reporting of the Entry Summary Declaration (ENS) which is contained in Part A:

- *ENS: How the ENS data is transmitted or made available through the NSW will depend on the NSW solution developed by the MSs, which may vary from having an integrated solution to one where different systems are interoperable. Therefore, it is up to each Member State to define how relevant data of the ENS is made available in the NSW by implementing a solution defined by each MS at national level, respecting EU legal requirements and technical specifications and without imposing new costs, IT development and/or administrative burdens for Trade."*

At the second stage, the FAL form 2 (Cargo Declaration) contained in Part B was added to the data mapping exercise:

- *FAL form 2: Article 7 says that MSs shall accept FAL forms for the fulfilment of reporting formalities. However, FAL form 2 is generally not used because it does not contain all cargo-related information required by authorities. Instead, several MS use the cargo manifest. It is recommended to transmit these cargo manifests electronically through the NSW, including the data elements and structure established in accordance with the requirements of the legislation of the MSs. In the future, once*

---

[13] RFD 2010/65/EU

[14] Directive 2010/65/EU on Reporting Formalities, Data Mapping Report dated July 27, 2017, version: 1.7, https://ec.europa.eu/transport/sites/transport/files/nsw-data-mapping-report.pdf

[15] Directive 2010/65/EU on Reporting Formalities, Data Mapping Report dated February 25, 2015, version: 1.6, https://ec.europa.eu/transport/sites/transport/files/data_mapping_report_2010_65_eu_0.pdf

available, these cargo manifests should be replaced by the harmonised electronic cargo manifest that is established in the context of the Blue Belt initiative."[16]

This eMS Data Mapping sub-group's work at identifying data elements showed that it was not possible to harmonise all data elements needed to efficiently fulfil the reporting formalities under RFD on an EU level. More importantly, the part of reporting formalities information categories (i.e. RFD Annex Part C) were left out of this work scope. Data Mapping Report 1,6 explains this exclusion as follows:

*"At its 7th meeting, on 12 December 2012, the eMS group concluded, with a reservation by the shipping industry representatives, that although the harmonisation of Part C "Any relevant national legislation" is desirable, it cannot be done at this stage (deadline for implementation 2015). As a consequence, the **work of the sub-group was limited to the formalities covered by part A and B**."*[17]

The question remains as to how simplified and harmonised fulfilment of reporting formalities in an electronic format is possible when all data elements of the relevant information are not identified, defined and harmonised for the data digitalisation and electronic exchange across the EU. How can RFD simplification and reporting only once principles be followed when data elements of such information have not been identified, defined and harmonised for MSs' internal and external sharing with other MSs? The RFD and its implementation could not avoid double-reporting if there are other reporting forms in operation at the same time, according to local rules and additional categories of information (i.e. data elements), which can be requested by each MS' authority under national legislation. This problem should be reduced and eliminated by identification, definition and following harmonisation of all relevant data elements – which can be requested in relation to reporting formalities in maritime transport and limiting the scope of such reporting requirements – which can be requested within EU. The PwC and Panteia study stipulates:

*"In the process of implementing NSWs and developing the formalities as a response to the Directive, **the digital forms/datasets have become more complex** and data elements have been added. Indeed, the fact that **NSWs have not been harmonised** has led to **increasingly confusing reporting processes** on an EU scale for certain stakeholders."*[18]

*"For Ship Agents, … they **receive the data from ships in different formats**, thus making it more difficult to adapt the data. "*[19]

The stakeholders interviews carried out in preparation for the PwC and Panteia 2017 study indicate that even if the same data is to be provided in MS's port – in respect of a ship which came from another MSs' port – it may often be that the data elements are provided in a different format, which creates extra work for shipowners or their agents to adjust the data elements into a format acceptable to the another MS's port or administration. This inefficiency can be solved only on an EU level by harmonisation and standardisation of data sets of information requested at reporting formalities in maritime transport. Some interviewees expressed an opinion that unification is needed on an EU level regarding maritime reporting formalities.

The NSW Data Mapping Report version 1.7, dated July 27 2017 – listed 202 data elements which were identified in the information sets provided during reporting formalities in maritime transport on the basis of legal acts of EU and international conventions. The eMS Data Mapping sub-group has recommended in this Report that 108 data elements (out of 202) should be made available by national SSN (or NSW) to other MSs through SSN on the basis of RFD art.6 and other EU legal acts. In addition to 108 data elements, there are 27 optional data elements, which are recommended to be made available to other MSs through SSN, however this depends on national legislation and reporting to NSW. This indicates that many data elements can be requested

---

[16] Directive 2010/65/EU on Reporting Formalities, Data Mapping Report dated February 25, 2015, version: 1.6, https://ec.europa.eu/transport/sites/transport/files/data_mapping_report_2010_65_eu_0.pdf

[17] Directive 2010/65/EU on Reporting Formalities, Data Mapping Report dated February 25, 2015, version: 1.6, https://ec.europa.eu/transport/sites/transport/files/data_mapping_report_2010_65_eu_0.pdf

[18] PwC and Panteia 2017 p 3 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

[19] PwC and Panteia 2017 p 6 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

in respect of one ship's entrance to the port and a large amount of data is reported if we are to consider the thousands of ships trading between EU ports. The collection and submission of this data takes many hours of work. Repeated collection and submission of the same data (sometimes in a different format) regarding the same ship entering into another MS's port creates un-countable hours of work. Such work can be avoided by simplifying and harmonising datasets in conjunction with automated reporting. The harmonisation of the data elements used in electronic reporting and digitalised information sharing are key processes to rationalise reporting formalities and reduce the extent of useless work or work with little value. The interviewees raised a question whether all the data that is gathered is really needed for reporting in maritime transport. There are certainly good reasons to review information requests and reporting requirements introduced by EU maritime directives due to the efficient operation of SSN, AIS and VTS which all have proven their benefits and support for safer maritime transport. Thus there should not only be the harmonisation of reporting formalities (the formal side of data collection) set as a purpose (like with RFD), but more extensive revision of information sets and reporting requirements (in essence) arising from EU maritime legislation and national legislation should also be brought into consideration. The question should be, *what information and reporting is really needed and is truly relevant for safe and efficient maritime transport*?

It is possible to reduce information requested in reporting formalities and thus shorten the list of data elements without harm to safety and other relevant rules. This can be achieved by revising some articles of maritime directives and in this way giving freedom for more harmonisation of reporting formalities. The eMS Data Mapping sub-group, and other eMS sub-groups, have made several proposals to the Commission/DG MOVE[20] to remove "yes/no" statements in respect of some data sets:

- confirmation of having a valid ISSC and approved ship security plan on-board the ship – required according to the Regulation 725/2004;
- having a DPG list on-board, required according to VTMIS,
- confirmation that the details of waste notification are accurate and correct – required according to the Directive 2000/59/EC,
- confirmation about sufficient dedicated on-board capacity – required according to the Directive 2000/59/EC,
- the requirement for a statement about a transit passenger – according to the Schengen Border Code) which cannot be removed for simplification and rationalisation of requested information use due to certain legal requirements in various legal acts of the EU.

It is worth reviewing and, if possible, revising these legal acts in order to make reporting formalities and information requested as rational as possible, taking into account advanced options to use, share and re-use of digital information – which should simplify the reporting procedures. The revision of relevant EU legal acts should include an analysis – does a "yes/no" correctness confirmation statement (on issues indicated above and on other possible issues deriving from the national laws) on top of the provided details (e.g. appropriate DGP loading plan or waste information has been made already available electronically on screen) in reporting submitted by the master of the ship – or by a responsible ship's agent – make them more aware of the involved responsibilities?

Solutions:

We perceive three main solutions and propose corresponding initiatives. The main solutions are: harmonisation of data elements, harmonised implementation of EU legal acts and a determination of relevant information for reporting.

---

[20] Directive 2010/65/EU on Reporting Formalities, Data Mapping Report dated February 25, 2015, version: 1.6, https://ec.europa.eu/transport/sites/transport/files/data_mapping_report_2010_65_eu_0.pdf

Harmonisation of data elements

All relevant data elements related to reporting formalities in maritime transport should be harmonised and, if necessary, standardised on the EU level with a mandatory application to all MSs. This should enable the sharing of standardised data elements between MSs (and these relevant administrations) via NSW and SSN – in this way facilitating the re-use of data regarding the ships entering MSs ports.

The evaluation of maritime directives is in process already, however this evaluation and refit work should take into account digitalisation of reporting formalities and harmonisation of information sets requested under various legal acts of the EU, in order to enable and facilitate the simplification and application of the report only once principle.

Harmonised implementation of EU legal acts

All EU legal acts related to reporting formalities and information requested in maritime transport – including relevant customs regulations and Schengen Border Code – should be reviewed and revised in order to support the fulfilment of purposes set by the RFD and its more harmonised implementation. RFD exclusion for customs regulations and Schengen Border Code requested information should be abolished in order to enable true operation of the report once only principle and single entry point, which facilitates digital data exchange.

MSs should collaborate and cooperate in determining which re-usable information is actually needed and possible to transfer in a harmonised manner – from one MS to another MS – regarding ships coming from the port of the first MS to the port of another MS. If such MSs collaboration and cooperation does not succeed and do not enable efficient electronic data exchange between MSs (so far it is not working properly), then the Commission should determine the scope of relevant information exchangeable between MSs.

Determine the relevant information that should be made available to other MSs.

There is a need to revise the RFD directive or replace it with respective new EU regulation to introduce more harmonised and, where necessary, binding rules and standards for all information requested from ships calling MSs' ports in order to enable information sharing in maritime transport. The information sharing is a necessary basis for the re-use of information, which can reduce the administrative burden on shipping companies and extend the actual application of the report once-only principle. MSs alone can't achieve the harmonisation of reported information sets and various reporting requirements established by existing EU legislation (i.e. maritime directives, customs regulations and Schengen Border Code). Besides this, there are an existing variety of national legislation requirements in maritime reporting which needs to be harmonised over a certain critical level. More unification at EU level in requested information sets shall give a stronger positive effect to the digitalisation of reporting formalities and efficient information sharing between MSs, relevant EU and MS's authorities and institutions. Such unification certainly supports simplification and a reduction of administrative burdens which was not sufficiently achieved through the implementation of the RFD.

Hypothesis 2 – Request of documents in a certain format by Member States

Description of the problem

RFD Annex C (i.e. category of information requested by national legislations) does not include all categories of information and reporting forms requested by national administrations and local ports into reporting formalities to be submitted in compliance with RFD – which results in double or multiple reporting requests at the local level.

According to art.2 sec.(a) RFD reporting formalities requirements relate to information set out in the Annex of RFD. Thus, generally the information listed in the Annex should be reported electronically via the single window.

Part A, B and C of the RFD Annex stipulates, in the list of categories of reporting formalities and information, which should be affected by the RFD towards simplification and harmonisation with use of electronic data exchange and rationalisation. This positive aim should be supported by the reusing of information (RFD art.2 sec.(f) – uses a *revisable structured format*) and by the reporting once principle (preamble cl.(9), art.5 paragraph 1 sec.2), reduce and finally abolish the use of paper format (preamble cl.(11), art.7). RFD art.7 stipulates that MSs shall accept FAL forms for fulfilment of reporting formalities (listed in Part B of the Annex), which established a certain uniform standard for RFD based on an international standard introduced by the FAL Convention. The IMO compendium on facilitation and electronic business[21] (its latest revised version from May 23 2012 has been updated with the following IMO circulars) supports use of electronic formats for reporting formalities under RFD (particularly regarding Annex Part B FAL forms). Still, the reporting formalities listed in Part C of the RFD Annex were left for MSs and national legislation to establish within its jurisdiction in a harmonised and coordinated manner (RFD art.3 paragraph 1). Part C of the Annex leaves it open for MSs to determine and regulate which information at reporting formalities "*must be provided for administrative and procedural purposes when ships arrive in or depart from a port in that MS.*"[22]

Such an open-ended reporting formalities list does not support the general purpose of the directive to simplify and harmonise the administrative procedures by rationalising reporting formalities. Still, Part C of the Annex gave the option to the MSs to include additional information to Part A and Part B's listed forms and formalities –which shall all be transmitted by electronic means – into their maritime reporting formalities through a national single window and national SafeSeaNet. Art.6 paragraph 1 stipulates "*Member States shall ensure that information received in accordance with the reporting formalities provided in a legal act of the Union is made available in their national SafeSeaNet systems and shall make relevant parts of such information available to other Member States via the SafeSeaNet system.*"[23]

Based on this RFD paragraph, at least this information – which is requested and received by MS' in accordance with the reporting **formalities required under EU legislation** – should be made available **electronically** in nSSN (or alternatively in NSW via an electronic data exchange according to art.6 paragraph 4) and made available to other MSs via the cSSN. This electronic data sharing and reporting request does not apply to other reporting formalities within maritime transport which are not regulated by EU legislation and which are not listed in Part A and Part B of the RFD Annex. This left a gap in the RFD harmonisation and digitalisation exercise, because the RFD did not cover the whole scope of maritime reporting and thus left many variations of information for MSs and national legislations to determine and request. The most difficult problem with this harmonisation and digitalisation gap is that it enabled the requesting reporting of data elements by national and local regulation at ship arrival and departure, which were covered by RFD reporting formalities. There is

---

[21] Revised IMO compendium on facilitation and electronic business, available at
http://www.up.gov.si/fileadmin/up.gov.si/pageuploads/SI_SSN/OOPP/FAL35.pdf
[22] RFD 2010/65/EU art.2 sec.(a)
[23] RFD 2010/65/EU art.6 par. 1

currently established a very complex reporting system in maritime transport, based on the RFD single window, in addition to national and local regulations which were in place before, reporting to which was not harmonised by MSs according to the RFD and thus left out of the scope of Annex Part C and the single window. This enabled **double-reporting** and imposed an even greater administrative burden on shipping companies (the new single window, plus the old system with possible changes) in direct contradiction with RFD's general purpose.

Art.3 established the cooperation requirement and an obligation to take measures and develop mechanisms for harmonisation and coordination of reporting formalities within the MSs and within the EU, however, this did not avoid double-reporting and led to an increase in the administrative burden for the industry. Art.15 sec.(c) established the Commission's reporting obligation to the European Parliament and the Council on the functioning of this directive on the *"progress towards harmonisation and coordination of reporting formalities that has been achieved under Article 3",* among other issues. In order to fulfil the obligation, DG Move ordered a study on the reporting obligation – resulting from directive 2010/65/EU – of which the final study report was published on December 12 2013[24]. This study report concluded the following:

"On the basis of the gathered information, some conclusions can be made regarding Art. 3.1 of the RFD: All MSs seem to have taken initiatives regarding implementation of a national maritime SW. There is a considerable variety (i) of SW concepts, systems, environments, (ii) of approaches to create a SW, and (iii) in the current state of affairs of development of the SWs:

- *MSs thinking about (the concept of) the Maritime SW ('pre-development phase): Belgium, Bulgaria, Denmark, France, Greece, Italy, Latvia, Malta, Poland, Portugal, Romania, Sweden, UK;*
- *MSs already developing a Maritime SW: Croatia, Cyprus, Germany, Lithuania, the Netherlands, Spain;*
- *MSs with a (more or less) operational (system/environment that will function as a Maritime SW: Estonia, Finland, Ireland;*
- *No information was provided for Slovenia.*

Part of the MSs is waiting for the EU technical specifications regarding the SW, other MSs modernise, (inter)connect and/or or 'rebuild' their existing national reporting formalities (lodge and/or exchange) systems in order to create a proper national maritime SW in accordance with the RFD.

A lot of stakeholders are involved: (i) at EU level and at MS level, (ii) not only the maritime administrations and maritime policy related fields are involved, (iii) Complex implementation and coordination process.

The main difficulties the MSs are struggling with are the following:

- *Impact of RFD implementation on the available budget and budgeting process of the (involved stakeholders in) MSs - referred to in 10 interviews.*
- *Interaction and/or involvement of many different (public and private) stakeholders and authorities in various policy fields is required in - several aspects of - the implementation process of the RFD - referred to in 12 interviews.*
- *Concerns and/or national legal difficulties regarding exchanging confidential (sensitive) information and guaranteeing data quality - referred to in 7 interviews.*
- *No or not enough technical specifications at EU level yet - referred to in 13 interviews.*
- *The implementation timing (1.06.2015) is getting close – referred to in 5 interviews."*

The report indicated that opinions were diversified regarding the RFD and single window implementation. There were many issues to be solved by the MSs themselves, depending on their own earlier established

---

[24] Study on Reporting Obligation Resulting from Directive 2010/65/EU, completed by MVV Decon and Tractebel Engineering on December 12, 2013:
https://ec.europa.eu/transport/sites/transport/files/modes/maritime/studies/doc/2013-12-reporting-obligation-2010l0065-final-report.pdf

practices regarding SafeSeaNet information sharing and reporting systems for maritime transport related reporting formalities deriving from EU legal acts and national legislation.

The critical issue was that reporting regarding ships in an MS port should be gathered from electronic systems into a single window, which must be interoperable with SafeSeaNet system.

Following art.5 paragraph 3 the electronic systems must be **interoperable, accessible and compatible with the SafeSeaNet.** The first sentence of art.6 paragraph 1 follows the general principle of RFD that reporting formalities should be made underlined electronically and shared (*made available*) in SSN systems (exchange of data in the SSN) however the second sentence of art.6 paragraph 1 stipulates an exception to this first sentence requirement with respect to information related to Customs (EEC 2913/92, EEC 2454/93, EC 450/2008) and Schengen regulation (EC 562/2006 – Schengen Borders Code). The second sentence of Art.6 paragraph 1 stipulates*: "Unless otherwise provided by a Member State, this shall not apply to information received pursuant to Regulation (EEC) No 2913/92, Regulation (EEC) No 2454/93, Regulation (EC) No 562/2006 and Regulation (EC) No 450/2008."*

This exception follows the RFD's preamble clause (14) which stated these Customs and border control reservations in spite of RFD's main purpose for simplification and harmonisation of reporting in order to make **the most efficient use of electronic data transmissions** and information exchange systems (see RFD preamble cl.(5) and following art.1 paragraph 1, art.2 sec.(f)). There is non-compliance (even potential contradiction) in art.5 paragraph 1 sec.2, which stipulates that all information is underlined reported once to make it available to various competent authorities and member states through single window linking SafeSeaNet, e-Customs and other electronic systems, and the second sentence of art.6 paragraph 1, which stipulates that the exchange of data shall not apply to information received pursuant to certain Customs regulations and Schengen Border Code unless otherwise provided by a MS. Thus there is stipulated the reporting once principle and the information sharing obligation, whereas the first reporting once function can be followed only together with information sharing and the exchange of data function. The scope of reporting once and information sharing has been reduced by the possible exclusion of Customs and Border guard related information, which made true fulfilment of the reporting once only principle impossible because the Customs and Border guard can request their own submissions. This reduced options to realise the full potential of digital data exchange.

The limited scope of the RFD is one of its weaknesses. Also, some important shipping related formalities, such as customs formalities, border guard formalities, national/local waste delivery receipts for the ports, reporting about bunkers on board the ships, certificates etc. — were left subject to MS national legislations and practices, which are diversified. RFD article 4 stipulates that ship's master or another authorised person should provide information required under the reporting formalities to the competent authority designated by MSs. These competent authorities can be the port authority, security authority, waste authority, border control authority, customs authority, health authority and other authorities depending on legal competences established in MS. It may be very complicated for a MS to bring information flow into single entry point (being NSW or national SSN) in maritime reporting due to the many reporting channels established for these authorities. The PwC and Panteia study describes single entry point and its availability in EU ports as follows:

"Single entry point is when each formality is submitted in one unique system through one single entry point. This is therefore achieved when all information (apart from Customs related formalities unless otherwise provided by a Member State) are submitted in a NSW or into a linked port community system (PCS) and every authority collects the required formalities from there directly. This is an ideal solution for the data providers; however the analysis indicates that this provision is only fully available at 18% of ports in the sample."[25]

The PwC and Panteia study excluded customs related formalities submission from single entry point (see above *"apart from Customs…"*) on the basis of the RFD, and this way from report once only principle (regarding ship's cargo information), however a true single entry point should receive/accept all information needed for the vessel's clearance in a port.

---

[25] PwC and Panteia 2017 p 72 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

The Commission admitted in its Report from the Commission to the European Parliament and the Council on the functioning of Directive 2010/65/EU on reporting formalities for ships arriving in and/or departing from ports of the Member states on 25.06.2014 that: *"there is however a considerable variety of (1) single window concepts, systems and environments, (2) approaches to create a single window and (3) the state of play of development within the Member States".[26]* This was recognised by the Commission about two years after MSs should adopt, publish and apply the laws, regulations and administrative provisions necessary to comply with the RFD (i.e. 19.05.2012 according to art.14 paragraph 1) and one year before the latest date when the reporting formalities should be fulfilled in electronic format via the national single window (i.e. 01.06.2015 according to art.5 paragraph 1) which must be interoperable, accessible and compatible with the SafeSeaNet system (according to art.5 paragraph 3). The RFD was not followed and implemented sufficiently by the stated target dates, then and even now. In this 2014 Report is stipulated: *"the shipping industry pointed at the risk that, in the absence of more interoperability standards and the lack of harmonisation of the information required at national level, the national single window systems developed by the Member States may turn out to be rather different from each other, which might necessitate the development of specific interfaces for industry to communicate with each member state system, thus increasing implementation costs and reducing benefits for industry".[27]*

The PwC and Panteia study brings out a variety of MSs approaches to the single window as follows:

"The implementation of the RFD 2010/65/EU has followed different paths: out of the 40 ports analysed in the Port Benchmark Study, 18 are served by a centralised national system, eight have implemented a decentralised system, nine operate with a mixed solution in place and the remaining five have not yet implemented a NSW. The system and model chosen have strongly influenced how the objectives were pursued and the current state of play with regard to level of implementation."[28]

At a present, the RFD has not fulfilled its purpose and, contrary to expectations, the RFD has caused more complex reporting and, on some occasions, even double-reporting. This has all led to an increase to the reporting burden for the industry and the persons engaged therein. According to the PwC and Panteia study:

"...for Shipping Companies the RFD 2010/65/EU has increased the administrative burden in many cases. This burden can be related to the inefficiency of the reporting process (complex reporting systems, more formalities to be submitted than before, and inefficient formats to request data), the upgrade of IT systems to be interoperable with NSW, the purchase of dedicated software for reporting, and investment in human resources to fulfil the reporting formalities"[29].

In spite of this extensive work, the RFD was not implemented in a coordinated and harmonised manner that would enable digital reporting formalities that simplify the administrative procedures applied to maritime transport. Even the simple aim of the RFD to abolish reporting formalities on paper format by June 1 2015 (according to art.5 paragraph 1 and art.7), was not fulfilled.

According to the PwC and Panteia study: *"the failure to implement objectives concerning the functionality of reporting portals has resulted in Shipping Companies often having to submit the data through the NSW as well as directly to the relevant authorities, **sometimes even in paper form**."[30]*

There was an attempt by the Commission and MSs to establish a coordinated and harmonised digital reporting formalities system for the RFD Annex Part A and Part B listed formalities, however **Annex Part C permitted**

---

[26] COM(2014) 320 p 4
https://ec.europa.eu/transport/sites/transport/files/modes/maritime/ports/doc/com%282014%29320.pdf
[27] COM(2014) 320 p 4
https://ec.europa.eu/transport/sites/transport/files/modes/maritime/ports/doc/com%282014%29320.pdf
[28] PwC and Panteia 2017 p 36, https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf
[29] PwC and Panteia 2017 p 5 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf
[30] PwC and Panteia 2017 p 6 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

information requests from ships according to national legislation of the MSs various administrations remained untouchable and were thus not harmonised at all. This is the **main cause of the failure of RFD,** which led to the possibility of double-reporting and an increased reporting burden for the industry, contrary to the initial purpose of the RFD.

The eMS and its sub-groups developed common functional and technical specifications, and a harmonised data set of information in 2013 and 2014 up until now, with the aim of fulfilling the requirements of the RFD and reporting formalities listed in Annex Part A and Part B. At the same time, there were no coordinated activities and harmonisation discussions between MSs and the Commission with respect to information that could be included into the national single window, according to national legislation. More importantly, there were no discussions regarding information that can be claimed by various national administrations for reporting under national legislation in addition to information/reporting formalities requested according to legal acts of the European Union.

The major contradiction of RFD is that it lists reporting formalities in Annex Part A and Part B which should be simplified and harmonised by electronic data transmission and by rationalising these reporting formalities, but leaves the RFD Annex Part C reporting formalities un-identified and an open subject to all MSs (and national administrations) willingness or unwillingness to harmonise these with other information provided under Annex Part A and Part B. The contradiction here is between harmonised digital reporting of formalities set forth in EU legislation (and standardised FAL forms) on the one hand and the variations of reporting requirements under national legislations of the MSs on the other. Such national requirements contain some categories of information that may be included into electronic reporting through the national single window (which assumes a harmonised data set of information/data elements etc. in compliance with SafeSeaNet standard etc.) and some categories of information reporting can remain un-harmonised (so called national reporting formalities).

The question is how to avoid the double-reporting of information (and ensure fulfilment of the reporting once principle of the RFD) if part of national reporting formalities may stay un-harmonised with single window and SafeSeaNet reporting regulated in the RFD. Art.3 paragraph 1 stipulates: "*each Member State shall take measures to ensure that the reporting formalities are requested in a harmonised and coordinated manner within that Member State,*"[31]. However, this paragraph applies to reporting formalities regarding information set out in the RFD Annex (see art.2 sec.(a) definition of "reporting formalities"). If some MS decides not to bring/harmonise into the single window (as per Annex part C) some category of information set forth in national legislation, then this is a potential risk of double-reporting. There can be two or even more reporting systems in an MS: (1) the RFD reporting formalities and (2) the national reporting system, or in worse cases, a separate national reporting system for different institutions (e.g. national customs authorities, national border guard administrations, ports).

The limited scope of reporting formalities stipulated in the RFD (only categories of reporting formalities as set in Annex Part A and Part B which to be simplified and harmonised) is **an obstacle for harmonised digital reporting formalities** within the entire EU, because this does not enable the needed harmonisation which is an assumption for efficient electronic information gathering, sharing and exchange.

The limited RFD scope of the application of maritime reporting formalities is against simplification aimed with single entry point and the reporting once principle, due to the freshly established RFD digital reporting through the single window and in other much earlier established national reporting in various MSs through port community systems, national SafeSeaNet and other reporting systems. The development of new complex multilevel (double) and burdensome reporting systems, which differ in MSs, was, in a negative way, supported by the delay in working out the technical specifications for the single window, harmonised data sets/data elements of information etc. – which were needed for good interoperable and compatible electronic systems of the single window, SafeSeaNet, e-Customs and others, which are relevant in MSs. Such a multiple reporting option (in contradiction with the single entry point and reporting only once principle) is stipulated in the RFD art.6 paragraph 1, the second sentence – which stipulates that information received pursuant to certain Customs regulations and Schengen Borders Code shall not be made available (no exchange) unless MS provides so. This national customs and border control authorities exclusion RFD in art.6 allowing parallel and multiple reporting requirements from ships/industries by national customs authorities, border guard administrations,

---

[31] RFD 2010/65/EU

statistics boards and other government bodies and institutions undermines further fulfilment of the RFD's purpose of simplification and harmonisation. The existence and use of many different electronic systems/platforms hampers digitalisation of reporting formalities, because the needed harmonisation of systems and data is more complex and it is more difficult to achieve good interoperability and data exchange.

The PwC and Panteia study concluded that the lack of agreement at EU level on the reporting of cargo-related data has been a major obstacle to achieving a fully harmonised NSW[32]. Customs authorities had already developed electronic systems and established procedures for reporting of the Entry Summary Declaration. Nevertheless, the coordination with e-Customs is necessary to achieve standardised digitalisation and simplification in reporting of cargo formalities. Therefore, it would be advisable to clearly define these topics and assess the potential synergies between the RFD 2010/65/EU and e-Customs.

Different national institutions can still request information and reporting regarding maritime transport (ships, cargo and crew certificates and conditions, waste, bunkers etc.), which reduces the positive effect of the digital single window and information sharing through SafeSeaNet and dissuades the industry from using these e-solutions.

The PwC and Panteia study has divided reporting once into three sub-categories, in order to facilitate the assessment of RFD and VTMIS:

- *"Reporting once per port call is possible at 28% of ports in the sample.*
- *Reporting once at national level can only be observed at a small number of ports (around 5% of ports in the sample).*
- *Reporting once via the NSW at EU level has not been implemented at all."*[33]

The reporting once principle as a tool for rationalisation is closely related to the digitalisation and single entry point, which are two other operational objectives in achieving the simplification of reporting formalities according to the PwC and Panteia study: *"Although the use of electronic transmission of data is drastically increasing, paper is still used for reporting formalities in many countries: it is therefore the case that only 32% of EU ports surveyed fully benefit from digitalisation."*

The requested coordination and wishful cooperation was not most likely sufficient and did not facilitate enough for resolving a dissonant caused by national legislation and respective local implementations of various EU directives. The Commission, in cooperation with MSs, managed to harmonise, to some extent, reporting formalities and their digitalisation, however this has been insufficient, which can be concluded on the basis of feedback received from the industry (ship-owners, operators), ports and persons involved (e.g. ship agents) according to the PwC and Panteia study, which describes that *"in the process of implementing NSWs and developing the formalities as a response to the Directive, the digital forms/datasets have become more complex and data elements have been added. Indeed, the fact that NSWs have not been harmonised has led to increasingly confusing reporting processes on an EU scale for certain stakeholders... Overall, apart from the National Competent Authorities, the majority of stakeholders viewed the implementation as more costly than beneficial. The main reasons for this are the aforementioned technical difficulties and lack of harmonised specifications."* [34]

The Commission has realised by now that the RFD's limited scope of reporting formalities prevents needed harmonisation of digital maritime reporting and enables double-reporting, which should be avoided by rationalisation and strict application of the reporting once principle –aimed at reducing the administrative

---

[32] PwC and Panteia 2017 p 77 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf
[33] PwC and Panteia 2017 p 73 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf
[34] PwC and Panteia 2017 p 6 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

burden. On 28.07.2017, the Commission initiated the Inception Impact Assessment[35], regarding reporting formalities for ships, which indicates the main problems and the specific objectives, which are:

- to establish EU harmonised reporting interfaces, data formats and semantics, processes and feedback mechanisms at EU level;
- to establish the maximum amount of data which can be requested by the administrations for port clearance;
- to endorse and facilitate the re-use of data and information.

Solutions:

We perceive three main solutions and propose corresponding initiatives. The main solutions are: a revision and harmonisation of relevant MS laws, the inclusion of cargo and customs formalities in reporting, and limit the scope of information that can be requested.

Revision and harmonisation of relevant MS laws

MSs should be encouraged to review their relevant national laws in order to support the achievement of RFD purposes and include all information requested from ships in maritime transport under national legislation in a limited and harmonised way to reporting formalities in compliance with RFD (to be covered by its Annex Part C). Such national measures and harmonisation can be commenced immediately before the revision of RFD or its replacement by another legal act. Furthermore, MSs should be encouraged to harmonise customs and boarder guard formalities with RFD reporting formalities in order to enable the exchange of data between relevant national authorities via NSW and further between MSs via EU central systems (SSN, EMSW or other relevant electronic environment) and in this way avoid double-reporting requests to ship-owners. Each MS already has the option to include all maritime reporting formalities required under national laws into NSW on the basis of the RFD (its Annex Part C) in a harmonised and rational way, following the list of data elements stipulated in the Data Mapping Report (version 1.7). In this way requests of the same information/data elements – which have been provided by ship/agent to NSW already on basis of RFD harmonised reporting – can be avoided. Unfortunately, this option and potential have not been sufficiently used by the majority of MSs, which has led to a heavy administrative burden on the shipping industry.

The inclusion of cargo and customs formalities in reporting

Reporting formalities in maritime transport under the RFD should include reporting of all cargo formalities, including customs formalities in order to achieve true simplification of administrative procedures for ships and shipping companies. The aim should be to exploit all possible potential synergies between the RFD (or its possible revised version) and e-Customs, which may be achieved by eManifest or by another universal electronic cargo document. Such new cargo documents should be acceptable to all national administrations and customs in MSs to enable them to follow the principle of reporting once only regarding cargo on-board the ships. In the longer-term, such an acceptable universal electronic cargo document in EU maritime transport may be aimed at becoming a widely acceptable cargo transport document for all chains of multimodal transport (at least within EU). Still today many MSs can improve the reporting of cargo formalities through the national single window to maritime, customs and other national authorities, making it report once only, at least in their own jurisdiction.

The option is to develop eManifest as a true European electronic cargo document, which is acceptable for all relevant authorities (including maritime administrations and customs) and ports in MSs.

---

[35] Inception Impact Assessment - Ref. Ares(2017)3807523 - 28/07/2017
https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2017-3807523_en

The option is for MSs to update their national single windows to make them the true single point of reporting, where all relevant national authorities (including maritime administrations and customs, border guard etc.) and ports can get all of the information they need through exchanging data between their electronic systems.

Limit the scope of information that can be requested

Through the legal act(s) of the EU, the aim is to limit the scope of information that can be requested by administrations and authorities in maritime transport reporting. This should establish a maximum level of information that can be requested from a ship in a port of a MS for the ship's clearance. This information should be reported once only to the NSW and made available to other MSs via the EU's central systems (SSN, EMSW or other relevant electronic environment) to enable re-use of data at the ship's next port call in a MS. The issue of further harmonisation of MSs' national legislation with the RFD reporting formalities can be raised in the relevant high-level meeting of EU MSs officials and MSs should be encouraged to develop further harmonisation between the RFD and national legislation, in spite of the RFD's expected revision. The potential of RFD has not been exhausted yet, in spite of some of its weak aspects, further progress in the digitalisation of reporting formalities is still possible within the framework of the RFD.

The option is to work out and adopt a legal act of the EU, to limit the scope of information that can be requested by administrations and authorities in maritime transport reporting.

Hypothesis 3 – The lack of sufficient collaboration between relevant EU and MS institutions

Description of the problem

The collaboration and coordination issue can be described in both a narrow and wide perspective. On the wider scope, there are variations of reporting requirements amongst different Member States; this is addressed more thoroughly in a later chapter.

"The Commission shall, in cooperation with the Member States, develop mechanisms for the harmonisation and coordination of reporting formalities within the Union."[36]

On the narrow scope, there are variations at Member State level as well, demonstrated by the variations in reporting requirements among the ports and authorities inside a single Member State. Lack of coordination, in concurrence with disharmonised reporting requirements, has led to double-reporting.

"Each Member State shall take measures to ensure that the reporting formalities are requested in a harmonised and coordinated manner within that Member State."[37]

Data gathering for Ex-post evaluation of RFD and VTMIS indicated that: "... (the) *majority of Shipping Companies (95 out of 107) reported that the reporting once objective has not yet been achieved in all ports. Clearly there is not an EU standard yet, as there are variations within Member States, particularly where not all the authorities are connected to the NSW, or where there are different processes in place at different ports."* [38]

During the interviews, it was pointed out that, for example in Denmark, one of the leaders in maritime digitalisation and an implementer of digital ship documents, NSW has been implemented and options for data sharing are created. Theoretically there should be no double-reporting, however double-reporting still exists due to the exceptions in local communities, customs rules and border police rules. During the interview, it was admitted that the reporting only once principle should be implemented.

EMSA has been working with authorities for years in order to harmonise reporting formalities and systems that support them. EMSA is a supporting agency for DG MOVE and maritime authorities and it uses its vast networks to build consensus through communication. They communicate with maritime authorities in Member States who will act as a local proxy in communicating with government and different stakeholders in order to harmonise the rules inside countries. During the interview it was pointed that the need for collaboration is more pronounced with larger countries that have more ports and stakeholders. In addition, communication amongst stakeholders and responsible authorities is made difficult since there is less direct personal communication amongst them.

"Local requirements, either within the port itself or associated with the public authorities operating in that region, often dictate the need for double-reporting, for a range of reasons: for example to meet their own requirements in terms of software, data format, information; staff prefer to use older methods that they are more accustomed to and familiar with, even if they can access the NSW for retrieval of information. Moreover the lack of communication between authorities (in port and at national level), the lack of

---

[36] RFD 2010/65/EU Art 3.2

[37] RFD 2010/65/EU Art 3.1

[38] PwC and Panteia 2017 p 50 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

interoperability between the e-Customs systems and the NSW in most countries result in high inefficiency issues."[39]

Interviewees have pointed out that the RFD in its current form leaves a lot of room for interpretation in reporting requirements and their implementation. This is the case on Member States and **various stakeholders inside MS'**. With the limited collaboration result comes variances on reporting requirements. This in turn makes the re-use of data more difficult, as well as reporting only once. Collaboration issues also limit the benefits that can be obtained by Member States, various authorities or shipping companies. Coordination is also related to the need for access to reported data and the consolidation of reporting requirements. The initial reporting solutions addressed only some of the needs and left out information related to customs. New initiatives like the eManifest project are focused on customs information and collaboration. The goal is to address the needs of larger number of authorities, without this it will be difficult to eliminate double-reporting. In collaboration with stakeholders various reporting needs need to be mapped, reviewed, consolidated and data shared between them.

"...collaboration between national and local authorities is not guaranteed. In some countries the reporting once principle has not been achieved because of the lack of sharing of information between authorities. Port authorities in a number of Member States reported that they do not have access to the information collected by the NSW or that they cannot manage the data, leading them to ask for information directly from the Shipmaster.[40]

One additional aspect is collaboration on an international scale. The RFD complies with the FAL convention requirements. The international maritime industry is mainly affected by requirements set by the IMO. Interviewees pointed out that shipping is an international industry and harmonising requirements only inside the EU will not have a sufficient effect on shipping companies. In order to be competitive on the global scale, the industry requires a reduction of the administrative burden on a global scale.

"Increased cooperation between Maritime and statistical authorities, Eurostat, and EMSA (SSN), at national and EU level can create a richer and more harmonised data universe, capable of reducing costs and double-reporting, while at the same time increasing data quality and coverage, and possibly enabling reports and statistics to be produced faster and more effectively."[41]

Solutions

In order to enforce collaboration, we propose two main alternatives: 1) enforce the rules on reporting, leaving less room for variation, thereby reducing the need for collaboration; 2) collaboration in the IMO, in order to achieve a more harmonised data exchange internationally.

Definition of reporting requirements and data exchange

After REFIT, it is possible to set standards for data that is forwarded. DG MOVE, together with stakeholders and MSs, will define in detail what additional data should be forwarded and what each data element specifically means. There has been mapping of data elements, but when a common data standard is created, the industry will implement it along with the MS. The second aspect is related to standardising the interface that is used to exchange data. Essentially, stakeholders are free to choose the IT system that is suited to their needs, as long as the common interface for data exchange is implemented. This will create the possibility to interface shipping companies systems to NSW-s in order to make reporting automatic. The need for separate reporting systems will decrease. Standardisation provides assurances that data elements and their meaning will stay relatively

---

[39] PwC and Panteia 2017 p 51 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

[40] PwC and Panteia 2017 p 37 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

[41] PwC and Panteia 2017 p 57-58 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

unchanged and the need for redesign of systems decreases. Those two aspects are the most common needs for all stakeholders interviewed during the analysis. One interviewee pointed out the need for stronger regulation and giving the Commission or EMSA more power to enforce harmonisation. This would give greater control over implementation of maritime reporting solutions.

Implementation of a data format and common interface for data exchange can be implemented after REFIT. Estonia should support the REFIT process and help to develop standards that correspond to the needs of various stakeholders.

Collaboration on a global level

The IMO has issued guidelines that every member should work toward recognition of digital shipping documents. In addition, the IMO is supporting acceptance and use of electronic ship documents and the implementation of electronic FAL forms. Active participation of the EU in IMO can have the impact of creating an international standard. This in turn will create the possibility that EU MS can more easily exchange ship-reporting information.

"... (the) main strength of this IMO initiative is that it has a broader target than the EU legislation, as it can affect the whole international maritime industry. The Convention requires the application of internationally harmonised and agreed measures, as well as a reduction in the number of declarations requested on ship arrival." [42]

---

[42] PwC and Panteia 2017 p 83 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

Hypothesis 4 – The lack of a basis for the re-use of electronic data at EU level

Description of the problem

Shipping companies bare the weight of multi-reporting to each MS separately, therefore issuing the same data several times, sometimes even several times within one state to different authorities. MSs don't share the information between other MSs and local authorities; this brings an extensive administrative burden to shipping companies and ship agents. MS administrations have the procedures and information systems in place, which have been developed over the years to fulfil local needs. The re-use of data requires standards to base data content (data elements) and representation, which is not specified at EU level. The eMS group has worked several years with these questions and have provided their recommendation (NSW Guidelines, Data Mapping Reports etc.). However, these are not binding for the MSs and needed harmonisation in data digitalisation, functionalities of single window and other relevant issues are not yet sufficient to enable the smooth exchange of data between MSs and relevant authorities, administrations and other institutions. Making changes in existing information systems requires additional development and resources that MS perceive not to weigh up to the perceived benefits.

Re-using data requires information to be collected in a manner and content understandable internationally. On the MS level, the official language used is regulated locally and the forwarded data received in the local language requires translating into another language. The requirements of the information presentation format can be regulated locally, amongst them language, even in the vastly international trade of shipping. Additional efforts must be made to ease the internationalisation of information flow.

The re-use of maritime reporting data is closely related to the free flow of non-personal data. Interviewees indicated that there is legislation in place at MS level that requires data localisation. Meaning that processing and storage of data must be done in the same MS as it was gathered. This can be used as a basis to avoid sharing. GDPR 95/46/EC art 1 (3) states: "t*he free movement of personal data within the Union shall be neither restricted nor prohibited for reasons connected with the protection of natural persons with regard to the processing of personal data."[43]*

The rules do not cover non-personal data. The Mid-Term Review on the implementation of the Digital Single Market Strategy describes the need to create rules for non-personal data and the abolition of data localisation requirements:

In order to ensure the effective and trustworthy cross-border free flow of non-personal data, Member States and industry should be guided by a principle of free movement of data within the EU. Data location requirements, entailing the storage and processing of data within specific territories, would only be justified in limited cases, such as for national security purposes.[44]

The proposal for a regulation of the European Parliament and of the Council on a framework for the free flow of non-personal data in the European Union[45] describes issues that need to be addressed in more detail:

- *Improving the mobility of non-personal data across borders in the single market, which is limited today in many Member States by localisation restrictions or legal uncertainty in the market;*
- ***Ensuring that the powers of competent authorities to request and receive access to data for regulatory control purposes***, *such as for inspection and audit, remain unaffected; and*

---

[43] GDPR 95/46/EC
[44] COM(2017) 228 final http://ec.europa.eu/newsroom/document.cfm?doc_id=44527
[45] COM(2017) 495 final

- *Making it easier for professional users of data storage or other processing services to switch service providers and to port data, while not creating an excessive burden on service providers or distorting the market.*

This is a horizontal regulation proposal and it will affect the sharing of maritime data amongst competent authorities. The regulation proposal emphasises that the functioning of the internal market is hindered by the obstacles encountered in the cross-border data mobility of non-personal data.

Article 4 specifies: Free movement of data within the Union[46]

1. *Location of data for storage or other processing within the Union shall not be restricted to the territory of a specific Member State, and storage or other processing in any other Member State shall not be prohibited or restricted, unless it is justified on grounds of public security.*

Article 5: Data availability for competent authorities[47]

1. *This Regulation shall not affect the powers of competent authorities to request and receive access to data for the performance of their official duties in accordance with Union or national law. Access to data by competent authorities may not be refused on the basis that the data is stored or otherwise processed in another Member State.*
2. *Where a competent authority has exhausted all applicable means to obtain access to the data, it may request the assistance of a competent authority in another Member State in accordance with the procedure laid down in Article 7, and the requested competent authority shall provide assistance in accordance with the procedure laid down in Article 7, unless it would be contrary to the public order of the requested Member State.*
3. *Where a request for assistance entails obtaining access to any premises of a natural or legal person including to any data storage or other processing equipment and means, by the requested authority, such access must be in accordance with Union or Member State procedural law.*

A regulation proposal would empower competent national authorities with the right to access non-personal data in order to provide services. In addition it gives the option to formally request assistance in order to gain this access. Through the enforcement of this regulation, competent authorities will gain a stronger ability to re-use the data and decrease the need for double-reporting.

Removing restrictions on data localisation opens up possibilities for data transfer and re-use.

Solutions

Defining and adopting a unified data-reporting format in the maritime industry, MSs can use a central source of information across local authorities, reducing the overhead of both administration and shipping companies several data submissions. Shipping companies can diminish multi-reporting to numerous authorities by only reporting changes of ship or cargo information or provisions according to the state or authority.

Specifying reporting standards and technical requirements, ensuring data transferability, opens up the possibility to interconnect existing information systems and re-use the data within them. In addition to technical requirements, data content needs to be standardised to move unequivocal datasets. The content of the data that's re-used across the EU needs to be defined as the baseline that each MS can complement as required on local level. Re-use of data at EU level would not replace or limit local information sources, leaving room for local provisions and flexibility in reporting formalities.

---

[46] COM(2017) 495 final
[47] COM(2017) 495 final

Defining a re-usable data set

Developing a re-usable set of data to be shared across the EU will ensure international data processing in a valid manner, reducing resource requirements for language translation. Structuring the data gathered in a common way across MSs will help the receiving MS to match the terminology and content of data received to the local information (system) context.

Removing obstacles on the free movement of data

Estonia should actively show support to initiatives that abolish restrictions on free movement of data across the EU. One such example is removing data localisation rules, indicated in the Digital Single Market Strategy. The impact of such initiatives is horizontal and it will support the development of many sectors, including maritime transport. Estonia should show political support for the promotion of legislative change and implementation for regulation by the European Parliament and of the Council on a framework for the free flow of non-personal data within the European Union.

Hypothesis 5 – The different extent of implementation of EU directives by MS institutions and the variations of national practices and legislation

Description of the problem

The 2014 Commission status report indicated that MSs have different platforms and environments for electronic receipt and digital transfer of reporting formalities established with implementation of SafeSeaNet. Following RFD implementation and the requested establishment of a national single window, many MSs were waiting for EU technical specifications and a standard in 2014, which was expected from the Commission to have interoperability of the electronic systems within the EU. The National Single Window Guidelines, published on 17.04.2015, did not sufficiently answer the questions and did not resolve the problems. The NSW Guidelines came out too late, just a few months before the RFD's given deadline of 01.06.2015, when MSs already had to complete the implementation of reporting formalities and their transmission via the single window. Many important issues were open for the MSs to decide in the NSW Guidelines, which left very little time, if any, for MSs that had started to develop their single window system earlier, ready to comply with the given deadline for implementation, collaboration and cooperation.

The NSW Guidelines gave principles of general NSW system configuration. The NSW Guidelines are provided in section 5.1, and are as follows:

"In summary, the NSW should:

- capture information submitted electronically by data providers;
- distribute or give access to information to different authorities (such as Maritime, Ports, Customs, Security, Waste, Health, Border Control);
- share information with other national systems through interoperable systems;
- make relevant information available in SSN for exchange with other Member States."[48]

Possible NSW models were described in section 5.2 of the NSW Guidelines as follows:

"The information flows which take place within the NSW, covering:
  a) *the submission of information by the shipping industry (e.g. ship master, operator or agent) and the receipt of decisions from authorities;*
  b) *the distribution of the received information to the authorities and the submission of their; decisions to the shipping industry; and*
  c) *the exchange of relevant information between Member States via the SafeSeaNet system.*"[49]

The NSW Guidelines provided a general system configuration according to the above described principles where central SafeSeaNet shall be a nodal point for the exchange of relevant information between MSs, however the Guidelines admitted that there are many possible methods of defining the architecture of the NSW, as each MS has its own unique requirements and conditions. The NSW Guidelines accepted that each Member State has to determine the national architecture of its single window. The Guidelines brought as an example regarding relevant factors to be taken into account in establishing the national single window.

---

[48] NSW Guidelines p 11
https://ec.europa.eu/transport/sites/transport/files/national_single_windows_guidlines_0.pdf
[49] NSW Guidelines p 11-12
https://ec.europa.eu/transport/sites/transport/files/national_single_windows_guidlines_0.pdf

"The national architecture will, for example, depend upon:
- *whether the NSW has to be linked to other authorities systems or authorities will only access information through a NSW user interface;*
- *whether the national SSN system will form part of the NSW solution or it will continue to be a separate system but linked on a system-to-system basis;*
- *which legacy systems will be included within the NSW environment."* [50]

The main principle was that the data exchange between MSs should be made through central SafeSeaNet system; however, national single windows could be established together with national SafeSeaNet, or could be made into separate systems to have a link for information sharing.

The delay with the Guidelines and lack of clear coordinated RFD implementation recommendations created a situation where every MS used or established their own electronic systems and digital reporting environments for national reporting. Some MSs extended their national SafeSeaNet system to include their reporting formalities according to the RFD. In this approach, national SafeSeaNet became like a single window, requested by the RFD. The legal basis for this approach could be concluded from art.6 paragraph 1 and paragraph 4, which stipulates that the received reporting information is made available to national SafeSeaNet systems and access to the information is provided through the national SafeSeaNet systems. It is worth mentioning, in this respect, that Annex III of VTMIS (which should establish a digital format of the messages according to art.22a of VTMIS referred to in art.6 paragraph 3 of the RFD) does not refer to single window stipulated in the RFD (see about VTMIS Annex III below in more detail).

Another MS approach was closely following the RFD wording as a prime source of new digitalised reporting and these MSs established a new single window environment for maritime reporting formalities. This created the second electronic system related to maritime transport reporting, next to the national SafeSeaNet, established earlier for maritime safety reporting in accordance with VTMIS. In this instance, the exchange of data between two systems is critical in order to follow the RFD art.6 paragraph 1 obligation that reporting formalities information shall be made available in the national SafeSeaNet and further via the central SafeSeaNet to other MSs.

In some MSs such information sharing did not work out, for various reasons, which are most likely caused due to the incompatibility of different electronic platforms or standards used. The third approach was to establish a new single window for overall harmonised maritime reporting, which covers maritime safety reporting under VTMIS SafeSeaNet, the RFD's reporting formalities (as requested in Annex Part A and B) and, where possible, national and local reporting formalities – bringing them into a single window reporting system (in compliance with RFD Annex Part C). This third approach should be the most successful in harmonising maritime reporting, however this system still has difficulties (like other approaches) with customs reporting, which shall be kept separately in customs point of entry due to the fact that certain information is needed for customs formalities. Such an option was foreseen in the second sentence of the RFD art.6 paragraph 1, which established the option for customs exclusion.

Still, all of these MS approaches in attempting to establish the so called single window for electronic reporting formalities with their variations, faced, to varying extents (the first approach based on national SafeSeaNet probably to less extent), the challenge of interoperability, accessibility and compatibility with the central SafeSeaNet system in order to make relevant information available to the EU and other MSs' competent authorities and institutions facilitating the re-use of information and reporting once, which should finally reduce administrative burden.

RFD art.6 paragraph 3 stipulates: *"the underlying digital format of the messages to be used within national SafeSeaNet systems in accordance with paragraph 1 shall be established in accordance with Article 22a of Directive 2002/59/EC."* [51]

---

[50] NSW Guidelines
https://ec.europa.eu/transport/sites/transport/files/national_single_windows_guidlines_0.pdf
[51] VTMIS 2002/59/EC

This means that VTMIS and SafeSeaNet should give the basis for the digital format of messages used in the information sharing and data exchange received in maritime reporting. VTMIS art. 22a stipulates the following:

1. *"Member States shall establish maritime information management systems, at national or local level, to process the information referred to in this Directive.*

2. *The systems set up pursuant to paragraph 1 shall allow the information gathered to be used operationally and shall satisfy, in particular, the conditions laid down in Article 14.*

3. *To guarantee an effective exchange of the information referred to in this Directive, Member States shall ensure that national or local systems set up to gather, process and preserve that information can be interconnected with SafeSeaNet. The Commission shall ensure that SafeSeaNet is operational on a 24 hour-a-day basis. The description and principles of SafeSeaNet are laid down in Annex III.*

4. *Without prejudice to paragraph 3, where operating under intra- Community agreements or in the framework of cross-border interregional or transnational projects within the Community, Member States shall ensure that information systems or networks comply with the requirements of this Directive and are compatible with and connected to SafeSeaNet."[52]*

Annex III of VTMIS was updated and extended to include into SafeSeaNet systems additional information for its exchange between MSs and the Commission, where relevant, with purpose to facilitate, among others, the efficiency of maritime traffic and maritime transport. Annex III stipulates the technical specifics and standards of electronic messages to be used to enable transmission, reception and conversation of data between systems. MSs should establish and maintain its SafeSeaNet systems allowing the exchange of maritime information between authorised users. Thus SafeSeaNet system was opened to reporting of RFD information, however certain specifications and standards of electronic messages and functionalities should be followed in order to make information exchange between systems possible. The Commission should develop and maintain an "Interface and Functionalities Control Document"(IFCD), according to section 2.3 of VTMIS Annex III, which should describe in detail the performance requirements and procedures applicable to the national and central elements of SafeSeaNet. VTMIS Annex III stipulates the principles of electronic messages and SafeSeaNet as follows:

*"**General concept and architecture***

The Community maritime information and exchange system, SafeSeaNet, shall enable the receipt, storage, retrieval and exchange of information for the purpose of maritime safety, port and maritime security, marine environment protection and the efficiency of maritime traffic and maritime transport.

SafeSeaNet is a specialised system established to facilitate the exchange of information in an electronic format between Member States and to provide the Commission with the relevant information in accordance with Community legislation. It is composed of a network of national SafeSeaNet systems in Member States and a SafeSeaNet central system acting as a nodal point.

The SafeSeaNet network shall link all national SafeSeaNet systems and include the SafeSeaNet central system."[53]

Unfortunately, the simplification and digitalisation did not manage to reduce the administrative burden for shipping companies. The PwC and Panteia study concluded evaluation results that *"... simplification of reporting was observed for 10% of the EU ports in the sample: the digitalisation provision was fully attained only for 32% of the ports."[54]*

In many respects, there is a need for further harmonisation in order to have workable and effective digital reporting. As explained above, certain common standards and procedures were necessary for the electronic transmission and exchange of information. The PwC and Panteia study concluded, *"...however, only two Member States out of the 16 that have been analysed have introduced common procedures at national level.*

---

[52] VTMIS 2002/59/EC art. 22a
[53] VTMIS 2002/59/EC Annex III
[54] PwC and Panteia 2017 p 4 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

Hence, national harmonisation has only been observed in 7% of the ports in the sample. No standardisation at EU level took place, as NSWs differ between countries and formalities are not harmonised among Member States."[55]

According to the PwC and Panteia study, *"RFD one core principle in simplification the reporting once via the NSW at EU level has not been implemented at all."[56]*

This failure is due to the various different national practices and weak collaboration in establishing a harmonised digital interface based on the national single window and SafeSeaNet, which should gather all relevant reporting formalities in maritime transport and make this information available and re-usable for all MSs and their relevant institutions. Such a scenario would enable the following of the reporting only once principle across the EU. Unfortunately, to some extent, RFD implementation failed at all levels – at the community level, as well as on the national and local level. The PwC and Panteia study makes it clear that *"...in addition to the lack of specific guidelines, insufficient collaboration between national competent and local authorities has led to double-reporting regimes and dis-harmonised reporting procedures as several local authorities still request data directly from the ship."[57]*

The lack of recognition of electronic signatures by MSs is an obstacle to the digitalisation of reporting formalities in maritime transport. The PwC and Panteia study [58] stated that *"...some Member States' legislation requires formalities to be signed by the data provider, but they do not accept an electronic signature." Thus, formalities need to be signed in person or a scanned version of the documents with a signature must to be submitted."* Information technology has now reached a level that electronic signatures are considered a secure tool for identification and authorisation. This possibility should be fully used and electronic signatures should be made acceptable in all MSs, which is not needed for maritime reporting formalities only, but have a much great potential to make the Digital Single Market truly workable. Regulation No 910/2014[59] (i.e. eIDAS) is valid from July 1 2016 and its Article 6, regulating cross-border recognition of electronic identification, should solve the problem on its application from September 2018. As an alternative to the use of electronic signatures in reporting for simplification, MSs should consider the abolition of requirements within national legislations to sign reporting documents in person. In case of digital reporting, the information providers (ship master, ship agent etc.) shall be identified in any case in order to validate the information submitted into the single window, thus there is no reason to additionally request that documents be signed in person.

Solutions

We perceive four main solutions and propose corresponding initiatives. The main solutions are as follows:

1.   to establish a harmonised EU reporting interface through which all information received via reporting formalities can be made available to all relevant local, national and EU level administrations and systems.
2.   to provide technical standards for NSW in order to make it interoperable and compatible with the central EU system, which shall be nodal point for reporting formalities information sharing.
3.   to facilitate and extend the recognition of electronic/digital signatures by MSs and establish a respective common validation system within the EU.

---

[55] PwC and Panteia 2017 p 5 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf
[56] PwC and Panteia 2017 p 73 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf
[57] PwC and Panteia 2017 p 5 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf
[58] PwC and Panteia 2017 p 38 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf
[59] REGULATION (EU) No 910/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC

4. to review and revise, where necessary, national legislation by MSs regarding requirements for signing documents in person by hand, which are submitted during reporting formalities in maritime transport, instead, digital signatures and electronic reporting should be accepted throughout the full range of maritime reporting.

Hypothesis 6 – The lack of a common interpretation of data protection and data privacy rules in the EU

Description of the problem

On April 27 2016, a European Union regulation on protection of personal data (GDPR) was issued. This regulation seeks to harmonise the protection of the fundamental rights and freedoms of natural persons in respect of processing activities and to ensure the free flow of personal data between MSs. This will bring clarity ensure that personal data is processed in a secure and authorised manner, but giving MSs the right for provisions of law, adapted relating to specific processing situations, enables differences between the interpretation and enforcement of GDPR. Although GDPR is a big step toward harmonisation, local provisions still pose an obstacle for sharing data. During the interviews it was indicated that GDPR is perceived as an obstacle to sharing data across borders, especially concerning crewmember and passenger data. It was perceived as a risk due to its unclear implementation guidelines, without guidelines, the regulation might be interpreted as a restriction on data sharing. With GDPR enforcement less than a year away, there are still no guidelines on its implementation. A similar situation occurred with the implementation of NSWs. When guidelines for the NSW were published just less than three months before the NSW implementation deadline.

"RFD 2010/65/EU required Member States to implement the NSW by 1 June 2015, just over three months after the publication of the non-mandatory Data Mapping Report, and less than two months after the non-mandatory National Single Window Guidelines were published. Therefore, the publication of these reports was far too late as the development of a NSW system can take several years as reported by some National Competent Authorities in the Port Benchmark analysis." [60]

GDPR gives an option for public administrations to share data inside the EU and to third world countries, provided that they comply with GDPR requirements.

GDPR 95/46/EC Art.46(2)(a), (3)(b) *"The appropriate safeguards referred to in paragraph 1 may be provided for, without requiring any specific authorisation from a supervisory authority, by: (a) a legally binding and enforceable instrument between public authorities or bodies; [...] Subject to the authorisation from the competent supervisory authority, the appropriate safeguards referred to in paragraph 1 may also be provided for, in particular, by: (b)provisions to be inserted into administrative arrangements between public authorities or bodies which include enforceable and effective data subject rights."* [61]

Beyond personal data regulation, the specific focus areas of critical infrastructure and network protection have been addressed and regulated and this is needed for defining the data publication framework, along with information security regulation. Whereas the perception of personal data definition is being clarified with GDPR with a number of procedures required to protect them, such grounds have not yet been laid regarding public and non-public data, or information (cyber) security. MSs can be concerned about data protection – issuing the data to another MS with the lack of data protection regulation and unclear responsibility for applying measures to ensure protection.

---

[60] PwC and Panteia
 2017 p 36 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf
[61] GDPR 95/46/EC Art.46(2)(a), (3)(b)

During the interviews it was pointed out that GDPR might be an obstacle, if the relevant authority is unable to manage access rights and IT implementation properly. In a situation where data is shared with parties that have a legal basis to access a relevant part of it, GDPR poses no obstacle.

Solutions

Developing harmonised data protection comprehension and approach, MS can be confident the data will be processed by the principles of confidentiality, upholding data integrity and quality, and affording the intended availability for authorised parties. With EU rules assuring that data is processed in a shared manner, MSs are released from the responsibility of assuring cross-border data processing that's compliant to both local and target MS regulation. Shipping companies are released from the responsibility of adapting state specific rules to each member to the current extent and can rely on an EU regulation baseline.

Defining of data protection rules

The initiative of analysing data protection rules across the EU and defining principles of shared EU data protection is a strong enabler in activating data exchange. The extent, nature and type of data processed must be taken into consideration when defining data protection rules. The sensitivity of information varies from ship name, which can be observed at plain sight in a port, to environmentally dangerous cargoes, delicate personal or state secret data, made available on a need-to know basis only.

Defining data transferring rules

After ensuring the shared baseline for data protection across MSs, an essential matter of data ownership and liability needs to be deliberated. How to specify the responsibility division between different parties processing the data and which organisation is expected to be responsible for retaining the data, ensuring its correctness and making authorised updates. In processing the data beyond MS borders, the legal framework of handing over the data to another MS needs to be considered and whether ownership of data can be transferred and under which conditions needs to be clarified.

Other relevant EU Directives with respect to the digitalisation of maritime transport and the use of e-Solutions

There are some EU directives that are relevant to shipping and maritime transport which create requirements and reporting obligations to ships in the related activities and matters. These directives lay basis for the required reporting formalities and requested relevant certificates and other documents the submission of which can be made in an electronic format. The following directives (in addition to VTMIS and RFD) are relevant for the digitalisation of maritime transport documents and for the use of e-Solutions tasks:

- The Port Reception Facilities Directive (2000/59/EC) – PRF
- The Port State Control Directive (2009/16/EC) – PSC
- The Mutual recognition of Seafarers Certificates Directive (2001/25/EC)

The Port Reception Facilities Directive (2000/59/EC)

The purpose of the Port Reception Facilities Directive (hereinafter: "PRF Directive") is to reduce the discharges of ship-generated waste and cargo residues into the sea. PRF Directive art.1 stipulates:

"The purpose of this Directive is to reduce the discharges of ship-generated waste and cargo residues into the sea, especially illegal discharges, from ships using ports in the Community, by improving the availability and use of port reception facilities for ship-generated waste and cargo residues, thereby enhancing the protection of the marine environment."[62]

The PRF Directive applies to:

- (a) all ships calling at, or operating within, a port of a Member State, with the exception of ships on government non-commercial service and;
- (b) all ports of the Member States normally visited by ships falling under the scope of the PRF Directive.

The PRF Directive is based on the requirements contained in the International Convention for the Prevention of Pollution from Ships (the MARPOL Convention). MARPOL requires the Contracting Parties (all MSs are parties) to provide for port reception facilities for waste from ships that is not allowed to be discharged into the sea. Those facilities must be adequate to meet the needs of the ships using the port, without causing undue delay.

In addition to the MARPOL Convention, the PRF Directive provides the following tools to reach its objectives:

- mandatory availability of port's waste reception facilities, adequate to meet the needs of the ships normally using the port;
- waste reception and handling plans implemented for each port;
- the mandatory notification of ship's waste by the master of a ship;
- the mandatory delivery of all ship-generated waste with limited exemptions;
- transparent and non-discriminatory waste fee system imposed on all ships, irrespective of actual use of the port's waste reception facilities;
- inspections to verify ships' compliance with the articles of the PRF Directive.

To achieve effective use of a port's waste reception facilities, planning of waste reception and monitoring of waste delivery, the PRF Directive requires the use of a notification form, identifying the ship-generated waste and cargo residues to be delivered, or remaining on-board.

---

[62] PRF (2000/59/EC)

Furthermore, the PRF Directive provides that MSs and the Commission shall co-operate in establishing appropriate **information and monitoring system to achieve the effective exchange of information between authorities.**

For this purpose, the VTMIS[63] Annex III has extended the scope of reporting and information exchange via SSN, which shall be used for the exchange of a standard message on waste and cargo residues. The use of the central system for the transmission of data should facilitate the exchange of information, as well as the identification and monitoring of ships that have not delivered their ship-generated waste and cargo residues in accordance with the PRF Directive.

RFD[64] requires that the information of the PRF Directive shall be provided through the National Single Window and exchanged using the SSN.

To assess the relevance, effectiveness, efficiency, added value and coherence of the PRF Directive, the Commission launched an evaluation study, which was completed in May 2015[65]. In the PRF Directive study it was found, *inter alia,* that:

- electronic reporting formalities are still not harmonised;
- ports and inspection authorities make insufficient use of the information reported through the advance waste notification and that the information is not systematically exchanged between the competent authorities of MSs to provide the basis of efficient monitoring and enforcement;
- the existing inconsistencies in waste definitions between the PRF Directive and MARPOL have resulted in the development of complicated reporting forms and procedures to comply with the different requirements at international and EU level. These could be simplified to a large extent, if the inconsistencies were removed;
- PRF inspections should, in the first place, be based on the information notified through the advance waste notification. Since MS authorities do not always use the information notified for this purpose or do not share the information with the enforcement bodies, it becomes difficult to select ships for inspection based on the criteria laid down in the PRF Directive;
- not all port authorities keep track of the specific amounts of waste delivered to their port over time, as the electronic means for doing this are generally not in place and there is no legal requirement to do so. Ports that collect this information act on the basis of their own data needs, using their own units of measurement, which complicates the monitoring of compliance and progress with the overall objectives and requirements of the PRF Directive;
- different procedures are employed to evaluate exemption requests across the EU, which may increase the administrative burden on port users, while limiting the potential for relevant authorities in different MSs to cooperate.

The parameters for granting exemptions under art. 9 of the PRF Directive are not well defined and leave room for a different interpretation and application by the MSs. The different criteria are thus employed to evaluate exemption requests across the EU, which leads to an increased administrative burden on port users, while limiting the potential for relevant authorities in different MSs to coordinate the exemptions granted to vessels. The poor coordination is also due to the insufficient exchange of information between competent authorities in the MSs, which may lead to problems when assessing whether the conditions for granting exemptions are fulfilled.

---

[63] The Directive 2002/59/EC of the European Parliament and of the Council of 27 June 2002 establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC, http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1505391894405&uri=CELEX:32002L0059
[64] The Directive 2010/65/EU of the European Parliament and of the Council of 20 October 2010 on reporting formalities for ships arriving in and/or departing from ports of the MSs and repealing Directive 2002/6/EC, http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1505392053298&uri=CELEX:32010L0065
[65] Ex-post evaluation of Directive 2000/59/EC on port reception facilities for ship-generated waste and cargo residues, final report of PWC and Panteia, May 2015, http://ec.europa.eu/transport/modes/maritime/studies/doc/2015-ex-post-evaluation-of-dir-2000-59-ec.pdf

The Port State Control Directive (2009/16/EC)

The purpose of the Port State Control Directive (PSC) is to help to reduce substandard shipping in waters under the jurisdiction of MSs by increasing compliance with legislation on maritime safety, maritime security, protection of the marine environment and on-board living and working conditions, implementing within the Community a port state control system. The PSC shall apply to any ship and its crew calling at a port or anchorage of a MS. PSC article 9 paragraph 1 stipulates the obligation to the operator, agent or master of the ship to notify of the ship's arrival in accordance with the provisions laid down in Annex III. PSC Annex III stipulates that certain sets of information requested from a ship, which should be notified at least three days (72 hours) in advance. The same data (ship name, call sign, IMO number, MMSI number) shall be submitted in reporting formalities under RFD Annex Part A and B. PSC requested notifications are not included into RFD Annex Part A and B, but RFD Annex Part C categories of information.

These data elements, deriving from information sets based on PSC notifications, are optional for NSW implementation under the RFD, because this is the category of information that MSs can make reportable in compliance with RFD, or leave it reportable under national legislation. Such a **PSC notification** becomes problematic if the same ship's related data **is requested according to national legislation,** because the same data elements are requested according to RFD Annex Part A and Part B. This **creates double-reporting** of the same data, which should be avoided by simplification and digitalisation of reporting formalities within maritime transport.

From the documents' digitalisation and this electronic use perspective is certainly an obstacle PSC art.13.1.(a), which stipulates: "*...checks the certificates and documents listed in Annex IV required to be kept on-board in accordance with Community maritime legislation and Conventions relating to safety and security.*"[66] This article clearly stipulates an **obligation that a certain ship's certificates and documents listed in PSC Annex IV are required to be kept on-board**. Annex IV's list contains 44 different documents which should be on-board the ship, depending on the ship's type and other specifics. Document number 18, stated in the list "*...as (a) copy of the Document of Compliance and the Safety Management Certificate*", implies that other documents should be in their original form on-board the ship. It is possible to keep all of these requested documents electronically (in digital form) on-board and present these during inspection in the computer; however this is not clearly stipulated in the legal acts. Besides references to a copy of DoC and SMC in the PSC, Annex IV indicates that only these documents can be in copy-form on-board. The conclusion from this can be only that other documents should be in original-form on-board the ship. Therefore, the recommendation is to stipulate clearly in the PSC and/or relevant national legislation that a ship's documents can be acceptable in electronic format for the port state control inspection.

The Mutual recognition of Seafarers Certificates Directive (2001/25/EC)

The Mutual recognition of Seafarers Certificates Directive (2001/25/EC), amended by directive 2005/45/EC of the European Parliament and of the Council of 7 September 2005 on the mutual recognition of Seafarers' certificates issued by the Member States.

The Mutual recognition of Seafarers' certificates Directive (MRS) stipulates the principles for the recognition of seafarer's certificates between MSs. Seafarers' certificates prove the qualifications and competence of certain seafarers to work on-board a certain type of ship(s), in a certain position (master, officer or rating etc.). MRS Art.4 stipulates: "*...that a certificate shall be any valid document, by whatever name it may be known, issued by or under the authority of the competent authority of a Member State in accordance with Article 5 and with*

---

[66] PCS (2009/16/EC) art.13.1.(a)

the requirements laid down in Annex I. MRS Annex I set forth mandatory minimum requirements for certification of seafarers on certain positions to work on board the ship."[67]

MRS has been adopted from the point of view that seafarers certificate is a document (see definitions, art.4, art.5.7.(a) etc.). This document can be transferred in electronic format between MSs, however this may not be sufficient for full exploitation of benefits arising from the digitalisation and use of e-solutions. MRS art.10 paragraph 4 obliges each MS to maintain a register of all certificates and endorsements and to make available information on the status of such certificates, endorsements and dispensations to other MSs. This means that, concerning information sets related to the seafarer's certificates, it's rational to have these in digital data format within the register, where they can be quickly and easily made electronically available or transferred to other MSs. A more advanced approach is that this **information set, proving the qualifications and competences of a certain seafarer, can be in electronic format, from the very beginning there is no need for a certificate on paper.**

In this way, the electronic register of seafarers shall maintain digitalised information about seafarers' qualifications and competences – data that can be quickly and easily shared to other MSs via the proper electronic channels/systems. This digitalised information shall be updated accordingly and validated by the MS that checked the qualifications and competence of a specific seafarer in compliance with international and national legal acts. Such use of digitalised information sets regarding seafarers' qualifications and competences assumes a radical amendment and update of MRS, however these amendments are mostly related to the formal side of the directive (the certificate as a document to be replaced by electronic documents, which is set of validated data elements), but does not change seafarers' training requirements, quality standards, medical standards, responsibilities of companies and MSs, principles of recognition and others, which are the core essence of MRS.

---

[67] MRS (2001/25/EC) Art 4

Amendment proposals for better digitalisation and use of e-Solutions

This chapter addresses the overall suggestions for improvements in relation to the directives regulating maritime transport.

The Vessel Traffic Monitoring and Information System Directive (2002/59/EC)

The VTMIS Directive has been amended and updated several times since its adoption in 2002, however due to rapid development of AIS, VTS, SafeSeaNet and digital reporting systems it still needs an update/amendments to avoid it becoming a bottleneck in digitalisation of maritime transport documents and the use of e-solutions in shipping. For example VTMIS Annex I sec.3.B (Cargo information) clause (b) states, "...*request a confirmation that a list or manifest or appropriate loading plan giving details of the dangerous or polluting goods carried and of their location on the ship is on board.*"[68]

Such a confirmation can be "yes" or "no", 'that a list or manifest or appropriate loading plan' is on-board the ship; this information has very little value. The valuable information is to have this list, manifest or loading plan made available electronically in the SafeSeaNet system where it can be quickly downloaded by the relevant authority. In case of an accident, such information could be urgently needed for the evaluation of risks and for possible rescue operations. Knowledge and confirmation that such information is aboard the ship is less valuable than specific cargo loading data.

The information technology and transferable data volumes available today allow us to share this information. If a cargo plan of dangerous or polluting goods on a ship can't be made electronically available in compliance with relevant harmonised standards for data exchange formatting in the SafeSeaNet, then at least a link should be provided for relevant authorities where it can be downloaded quickly, as an alternative to having it on-board the ship.

The Reporting Formalities Directive (2010/65/EU)

The RFD aimed for simplification and harmonisation, but did not succeed, which is very well demonstrated in the PwC and Panteia study[69]. The weaknesses of the RFD, as described in more detail in this analysis, is the exclusion of some customs and boarder guard requested information from RFD's scope of reporting formalities, which creates in MSs, on some occasions, double-reporting on top of previously existing reporting schemes – which goes against the "reporting once only" principle.

Another weakness of the RFD is that it did not establish a limited scope of reporting formalities/information requests to be applicable to all national and local reporting within the EU, which could enable true simplification and harmonisation of reporting. RFD Annex Part C's open-endedness and the discretion of MSs to include or not include into RFD reporting systems some category of information requested by their national legislation was working against RFD's own purposes. In 2010, the RFD was a good attempt to establish simplified and harmonised reporting formalities through digitalisation, by 2015 however, it was obviously premature because it could not include customs, boarder guard and national reporting requirements all at once. This made new reporting formalities very complex and increased the administrative burden for shipping companies, contrary to the RFD's own aims. **The RFD, in its present form, has become a bottleneck in**

---

[68] VTMIS (2002/59/EC) Annex I sec.3.B
[69] PwC and Panteia 2017 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

the development of digitalised reporting in maritime transport, because it has created very complex and burdensome multiple reporting systems.

The RFD needs a thorough revision to bring it up to date, extend its scope to all reporting formalities in maritime transport (including customs, boarder guard and national legislation) and eliminate its contradictions – doing so will reduce the administrative burden that has increased in 2015. It should be considered that RFD be replaced with a new EU regulation, one that stipulates certain obligations and some mandatory standards in critical issues of reporting formalities (e.g. establish limited scope of reporting data, certain unification of reporting for all MSs etc.), however an adaption of the regulation could be an option, with the consensus of MSs.

In interviews carried out during this analysis, several interviewees expressed the view that long and time-consuming consultations between MSs and the Commission about the regulation and its principles can cause the EU to lose momentum. Faster changes in the present state of reporting formalities (to reduce the still high administrative burden, no data exchange at EU level which should be established, etc.) are needed and therefore amendments to the RFD, or alternatively the adoption of a new directive, may be a more appropriate solution and could be more easily achieved. However, the effect of a new directive on the present state of affairs, its improvement and push towards needed progress could be still insufficient due to MSs different practices. Thus unification of reporting formalities by a new regulation should be discussed seriously as most likely the fastest solution to the industry in reducing administrative burden.

It is a task for the European Commission to analyse and consult with MSs to determine the appropriate way forward from here. One option is to keep reporting formalities harmonised by the directive (revised and amended RFD or new directive) or, alternatively, to achieve uniformity in reporting formalities between MSs through a regulation that is directly applicable in all MSs.

Taking into account a failure of RFD implementation in MSs to a large extent, and the MSs different approaches to single window electronic environments and systems – which cannot interoperate today – there are considerable arguments for EU regulation, which supports the efficient unification and standardisation of various aspects of reporting formalities.

The Port Reception Facilities Directive (2000/59/EC)

Based on the above findings, considering the Commission's digital single market policy, the need to limit the administrative burden, avoid undue delays in commercial shipping and grant efficient use of port reception facilities, the following amendment suggestions can be made to the PRF Directive.

Renounce the mandatory form for a pre-arrival notification

Annex II of the PRF Directive sets a mandatory notification form for a pre-arrival notification, containing information about the ship, its voyage and type and amount of waste carried on-board. The notification has to be given through the National Single Window, according to the RFD Directive, and it should be exchanged using the SafeSeaNet System, according to VTMIS. The information contained in that form already includes information on the ship and its voyage to be given by shipmasters through the National Single Window. Therefore, duplicated or separate forms containing the same information leads to an unnecessary administrative burden on shipmasters, and is in contradiction with art.5 of the RFD Directive. The information covering ship-generated waste could be detailed among other required data elements, without needing a separate form and signature.

The above-mentioned amendment, stating that data elements without a mandatory notification form, can be made by the Commission, according to art.15 of the PRF Directive.

An exemption procedure based on data given by shipmasters

According to the Ex-post evaluation of the PRF Directive[70], different procedures are employed to evaluate exemption requests across the EU, which may increase the administrative burden on port users, while limiting the potential for relevant authorities in different MSs to cooperate. Overall, the exemption procedure has been turned into a relatively time-consuming bureaucratic process, causing unnecessary administrative burden.

A unified and simplified procedure can be established, based on data given by shipmasters through the National Single Window and not requiring a separate application of the exemption. Evidence of an arrangement to ensure the delivery of ship-generated waste and the payment of corresponding fees can be recorded in the SafeSeaNet through the National Single Window. The existence of such recorded evidence can be the only grounds for granting exemption.

The above amendment requires amending art.9 of the PRF Directive, deleting MSs' discretion when granting the exemption. The exemption can be an automatic consequence of data given by shipmasters, provided the ship corresponds to the other conditions of exemption, i.e. regularity and the frequency of port calls.

Avoidance of unnecessary recording obligations

Given the assumption that all data provided in the form of pre-arrival notifications is recorded in the SafeSeaNet, there is no need to keep the same copies on-board the ship (PRF Directive art. 6 paragraph 2). Besides, the Ex-post evaluation of the PRF Directive[71] revealed that ports and inspection authorities make insufficient use of the information reported through the advance waste notification and that the information is not systematically exchanged between the competent authorities within MSs to provide the basis of efficient monitoring and enforcement. Missing grounds for requiring records from ships would also encourage authorities to exchange the information through the SafeSeaNet.

The above amendment can be made by deleting art.6 paragraph 2 of the PRF Directive. Similar considerations apply to art.9 paragraph 2 of the PRF Directive, obliging MSs to inform the Commission of exemptions granted, whereby that information can be recorded automatically by the SafeSeaNet upon granting exemption.

Making information available to more stakeholders

The PRF Directive emphasises the effective use of port reception facilities without causing undue delays to ships. However, besides the advance notification obligation enabling ports to plan use of the reception facilities, the directive does not stipulate any counter flow of information, enabling ships to avoid undue delays, in cases where port reception facilities would not be adequate to meet the needs of a ship. Making the reception facilities' data, including capacity, and the corresponding fees available to ships in the same data system where the notifications are recorded, enables the ships to plan their waste delivery, including use of exemptions allowed by art.2 paragraph 2 of the PRF Directive.

The Port State Control Directive (2009/16/EC)

The PSC can be amended in respect of a request stipulated in art.13.1.(a) that a ship's documents and certificates are required to be kept on-board, which implies to the obligation to have the original ship's documents and certificates available all the time on-board the ship. This article hampers the wider use of digital documents within maritime transport. It is therefore recommended to **amend art.13.1.(a) in order to make acceptable electronic certificates and documents** that can be presented on-board the ship in digital form.

---

[70] Ex-post evaluation of PRFD http://ec.europa.eu/transport/modes/maritime/studies/doc/2015-ex-post-evaluation-of-dir-2000-59-ec.pdf
[71] Ex-post evaluation of PRFD http://ec.europa.eu/transport/modes/maritime/studies/doc/2015-ex-post-evaluation-of-dir-2000-59-ec.pdf

Moreover, for future developments, it can be considered that a ship's status related to relevant data should not be in the form of a document or certificate (so far, the official document is in a specific visual form, which is usually adopted by some legal act), but this ship's status data can be indicated in electronic data set which is properly validated. The same ship, and her cargo and crew status-related electronic data presentation and acceptability by various authorities should apply to other maritime legal acts, in order to enable the extensive use of digitalisation and e-solutions in maritime transport.

Another issue to rectify is in the PSC's request to submit certain information 72 hours in advance, before the expected time of arrival in the port or anchorage in the MS. RFD art.4 made this advance notification period shorter to 24 hours prior to arriving in a port of a MS, however the RFD does not overrule the PSC. Thus, **harmonisation is needed between the RFD and the PSC,** to have a simple and clear general rule in place detailing when advance notices are requested prior to the arrival of a ship into a port of a MS.

The Mutual recognition of Seafarers Certificates Directive (2001/25/EC) amended by directive 2005/45/EC

Use of digitalised information sets regarding seafarers' qualifications and competences, instead of a certificate document, assumes the radical amendment and update of the MRS. Still, these amendments are mostly related to the formal side of the directive application (**certificate as a document to be replaced by electronic documents**), but does not change essence of MRS.

Political bottlenecks

Hypothesis 7 – The divergence of national and EU interests in the digitalisation of maritime documents

Description of the problem

The European Union is composed of 28 member states. This multitude of nations has been both its greatest strength and greatest weakness. The open internal market allows unprecedented economic opportunities yet, at the same time, cooperation and consensus finding is quite difficult. During the interviews it was pointed out that when the RFD was created, the Commission was aware of the fact that finding consensus on reporting data and structure was impossible. It was further pointed out that the Commission lacked a mandate for stronger harmonisation and creating a regulation that would harmonise maritime reporting across EU. During the development of the RFD, the decision was made to move on with the RFD, create an initial directive and then later evaluate it, do the impact assessment and refit. Several interviewees point out that interests of member states vary; some are quite satisfied with the status quo, while others prefer the intensification of digitalisation efforts. The difficulty is increased by the fact that, inside member states, there are various stakeholders with different interests – while some of them prefer increased deployment and harmonisation of e-solutions in maritime transport, the others prefer to wait until the current investments give sufficient return. The interviewees see the European Commission as being in favour of deploying e-maritime solutions and digitalising processes.

One of the most cited problems was that member states have made investments in creating IT systems for reporting and ports. Many countries and ports have invested in creating IT solutions; they have been doing it for the past couple of decades and changing those systems would incur additional costs. Ex-post evaluation of RFD and VTMS points out that without a community directive, MS were unlikely to harmonise and standardise their reporting requirements with each other. [72] Ex-post evaluation of RFD and VTMS and interviewees pointed out that the current implementation of RFD and VTMIS has not given the desired benefits. The Commission working document on the implementation of the EU Maritime Transport Strategy 2009-2018 points out that current progress has been made through "*enhanced use of mechanisms and fora to bring stakeholders and national administrations together and facilitate mutual consultation and operational cooperation.*"[73] The collaboration of Member States is required in order to achieve the harmonisation of reporting requirements, as is noted in the Ex-post evaluation of RFD and VTMIS[74].

EU Member States are participating in several pilot projects to develop digital maritime solutions in order to decrease the administrative burden and increase both efficiency and safety. The interviewees participating in those projects have pointed out that only some of the Member States are participating. From the ones that do, there is a divergence so that only part of them are active and have real interest in the outcome of the pilot project, while others take on the a passive role. As a result, the benefits are only partially achieved.

---

[72] PwC and Panteia 2017 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

[73] SWD(2016) 326 final Commission staff working document on the implementation of the EU Maritime Transport Strategy 2009-2018 https://ec.europa.eu/transport/sites/transport/files/swd2016_326.pdf

[74] PwC and Panteia 2017 p 83 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

Solutions

In order to combine interests, there are two main options – 1) force cooperation via regulatory acts, or; 2) build a consensus and demonstrate the benefits of digitalisation and e-maritime solutions.

Force cooperation via regulatory acts

Enforcing rules is a top-down approach. The Ex-post evaluation of RFD and VTMS points out that MS had a lot of freedom when implementing reporting formalities and national single windows. Therefore, the result is uneven across the EU, with varying data formats and reporting requirements. Evaluation recommendations are based on the stronger enforcement of rules in order to achieve greater harmonisation of reporting formalities and NSW systems. Stronger enforcement does not necessarily eliminate different interests, but limits the extent of those interests. At the same time, creating such a limiting framework requires the agreement of Member States and might be difficult to achieve. Interviewees pointed out that their desire is that member states would agree on a shared goal and collaborate in achieving it. The need for stronger regulatory acts can be demonstrated in several ways – REFIT should give a clear message that harmonisation is needed. The EU Presidency should also give a clear message of the need to harmonise and digitalise maritime transport reporting within the EU, building a consensus and awareness within European Parliament.

The REFIT process for maritime legislation is currently under way. The first stage of it has been completed through the publication of the Ex-post evaluation of RFD and VTMS. The second stage is about to begin and it includes an impact assessment. The Estonian Presidency should support the continuation of this process and support digital initiatives with it.

Build a consensus and demonstrate the benefits

Consensus building and demonstrating benefits is a bottom up approach. Interviewees pointed out that in order to demonstrate benefits, pilot projects are needed with the stakeholders and MSs who have an interest in moving forward. Projects demonstrate benefits and it is possible to build on top of previous projects. However, communicating the achieved benefits is crucial in order to create interest in countries that are more sceptical in digitalisation attempts, or have little vested interest in that area. When Denmark implemented digital ship certificates, they did a lot of networking and explaining amongst MSs and IMO in order to make sure that digital ship certificates were accepted. Building on the experience of previous pilot projects could have a significant impact on digitalisation and the deployment of e-solutions in maritime.

This approach was tested in the context of the Digital Single Market on eID systems. Initially, MSs were sceptical, but as a pilot project proved its benefits, more MSs joined the project. The Commission Vice-President for the Digital Single Market is about to launch large-scale project, implementing the once-only principle across borders. Through projects, it is possible to build a consensus and, in the end, reach the point where implementing legislation is possible.

The most prominent pilot project is the eManifest for declaring cargo. In order to support the digitalisation of maritime and deployment of e-solutions. While holding the Presidency of EU, Estonia should participate and support such pilot projects. In addition, it is advisable to promote participation amongst other EU Member States.

Technological bottlenecks

Hypothesis 8 – The segregated components of information systems implemented in maritime data processing

Description of the problem

The EU has drawn up the foundation build-up of logical components of information systems with RFP and VTMIS, which can be adopted by Member States and be implemented in processing marine data. The application of this architecture is not a liability to adopt to the full extent and Member States are free to decide upon implementing the components that are most beneficial in their current context. This allows efficiency on a local administration level, but creates a segregated and a heterogeneous landscape across the EU. A different architectural approach poses obstacles for integration on several levels, such as content, detail and data format, which needs to be levelled as a prerequisite for sharing data. Ports and administrations have different platforms and legacy systems that require adjustments before being able to receive or send out data. In order to simplify and enable the efficient development of data exchange technical channels, a set of unified technical requirements to adopt should be chosen.

"It is also the case that the National Single Window Guidelines do not provide a definitive way in which a NSW should be constructed, rather only a basic outline of the main issues that need to be considered and some of the available tools and standards." [75]

Related to the segregation of components is the segregation of data elements. Interviewees indicated that the data elements that ships need to report vary from one country to another. According to the shipping companies, they find that some reporting requirements are unnecessary and the amount of them is superfluous. In addition, this varies between countries. There is a need to review data elements, their standardisation and business value, so that all that is required would be needed by the authorities and it would not contain unnecessary elements. There is non-mandatory Data Mapping Report[76], which establishes data elements that should be implemented in a NSW environment. It is not mandatory, therefore, that individual NSWs have variances on data elements and they were published too late to be implemented into NSW environments before the deadline. This makes integration and data transfer between NSWs difficult. This creates additional issues with data quality and trustworthiness, for example, "date of arrival" must be defined in the same way for all of the NSWs, otherwise it would create discrepancies.

When standardised integration is implemented together with a standard data format, NSWs could exchange information which could be trusted. This would decrease the need for double-reporting. Changes in all of the NSW systems are difficult and expensive; the Ex post evaluation of RFD and VTMIS indicates that many countries are unwilling to change them when the benefits of doing so and sustainability are unclear.

Solutions

Unifying the principles and core components used for data exchange in the centralised EU information system would enable a more coherent data flow. This can be achieved by creating technical standards and components for the international information system to ease transfer and translate the data between the components. This can be done, whether by motivating local administrations to develop the local components in a standardised

---

[75] PwC and Panteia 2017 p 36 https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf

[76] National Single Window Data Mapping Report 2017 https://ec.europa.eu/transport/sites/transport/files/nsw-data-mapping-report.pdf

logical architecture, or compensating the lack of them by creating a central system that can be used across the EU.

Definition of data transfer protocols

Motives for local administrations to create a coherent architecture of analogous components in an integrated cross-EU information system vary from the mutual benefits gained by more easily available data, to obligatory legislation for technical implementation. It is important to use forward-looking and modern IT solutions and tools and balance them with the means and resources available across member states to develop a readiness for technical compliance. Currently, the majority of expertise contribution of creating the technical means has been led by member states more matured in developing their own solutions and tools on a local administration level, but it is a challenge to involve the adoption across other states with the limited resources available. On a technical level, the systems used to exchange data do not have to be identical, but the appropriate technical protocols and format to pass on the data must be agreed upon.

Centralising technical platform

The approach, until now, has given liberties to the Member States to develop their own components to interact with information systems amongst other states. An alternative approach could be considered by creating a set of tools and operational solutions by EU institutions, given to Member States to centralise standardised data sharing channels. In this way, the EU could lead the development of standards for data presentation and transmission between Member States, reducing the weight on the few initiative states up until now and therefore reducing the efforts needed for each MS to share data. MSs working together under an EU organisation, would involve more discussion than a dialogue of a few pioneers and provide a central technical platform of integration enablers for local administrations to implement.

Multimodal bottlenecks

Hypothesis 9 – The lack of interoperability of electronic transport-related platforms and the non-recognition of electronic transport documents by public and private stakeholders in multimodal transport

Description of the problem:

Article 90 of the Treaty on the Functioning of the European Union establishes that the objectives of the Treaties concerning transport shall be pursued within the framework of a common transport policy. According to Article 91, the European Parliament and the Council shall lay down:

- common rules applicable to international transport to or from the territory of a Member State or passing across the territory of one or more Member States;
- the conditions under which non-resident carriers may operate transport services within a Member State;
- measures to improve transport safety;
- any other appropriate provisions.

The digital single market is one of the European Commission's top priorities, according to the Political Guidelines for the next European Commission [77]

The whitepaper "Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system"[78] establishes that better mobility planning has to be actively encouraged. Information on all modes of transport, both for travel and freight, on possibilities for their combined use and on their environmental impact, will need to be widely available. Smart intermodal ticketing, with common EU standards that respect EU competition rules is vital. This relates not only to passenger transport but also freight, where better electronic route planning across modes, adapted legal environments (intermodal freight documentation, insurance, liability) and real-time delivery of information – including for smaller consignments – is needed. ICT also has the potential for satisfying certain accessibility needs without additional mobility.

Action 7 on the list of initiatives of the White Paper stipulates creation of the appropriate framework to allow tracing of goods in real-time, ensuring intermodal liability and the promotion of clean freight transport through the following actions:

- Put in practice the concepts of 'single window' and 'one-stop administrative shop'; by creating and deploying a single transport document, in electronic form (electronic waybill), and creating the appropriate framework for the deployment of tracking and tracing technologies RFID etc.).
- Ensure that liability regimes promote rail, waterborne and intermodal transport.

---

[77] A New Start for Europe: My Agenda for Jobs, Growth, Fairness and Democratic Change Political Guidelines for the next European Commission. Opening Statement in the European Parliament Plenary Session Strasbourg, 22 October 2014 Jean-Claude Juncker, candidate for President of the European Commission Strasbourg, 15 July 2014. https://ec.europa.eu/commission/sites/beta-political/files/juncker-political-guidelines-speech_en_0.pdf
[78] COM/2011/0144 final

The strategic goals and recommendations for the EU's maritime transport policy until 2018[79] stipulate,*"…the capacities of the EU's maritime transport system should be strengthened by putting in place an integrated information management system to enable the identification, monitoring, tracking and reporting of all vessels at sea and on inland waterways to and from European ports and in transit through or in close proximity to EU waters."*

Such a system would be part of the e-Maritime Initiative and develop into an integrated EU system, providing e-services at the different levels of the transport chain. In that regard, the system should be able to interface with the e-Freight, e-Customs and Intelligent Transport Systems, allowing the users to track and trace the cargo, not only during the waterborne part of the journey, but across all transport modes in a true spirit of co-modality.

By a Commission decision, dated 09.04.2015, an expert group on Digital Transport and Logistics (DTLF) was set up[80]. Its task is to assist the Commission in developing and implementing policy measures. It identifies challenges and areas where common action in the EU is needed, provides recommendations, and supports the implementation of these recommendations where appropriate. DTLF's subgroup 1 focuses on electronic transport documents including their acceptance by private and public stakeholders and harmonisation issues. The final report, including legislative and non-legislative recommendations for electronic transport documents, will be released in 2018.

Besides the actions under the EC initiatives and direct involvement, there are more than 30 projects concluded, supported by European Union, related to digitalisation of multimodal transport. Projects named iCargo [81], e-FREIGHT[82] and E-FRAME[83] are just examples of them. Considering the priorities of the European Commission, many transport digitalisation projects would follow.

What hinders the digitalisation of multimodal transport documents is not an absence of electronic transport documents, evidencing the contract of carriage or conveying title to the goods. The Bill of Lading (B/L), the Road Waybill (CMR), the Air Waybill (AWB), the Rail Waybill (CIM) – all have their electronic formats or versions available and so has FIATA Bill of Lading, a document developed by the *International Federation of Freight Forwarders Associations* and designed to be used as a multimodal or combined transport document with a negotiable status. Creating a new electronic inter or multimodal electronic transport legal regime or document covering EU territory would, therefore, not solve a problem of low level of digitalisation in multimodal transport. The target should be a globally harmonised digital transport document. Any initiative at EU level should not be restricted to intra-EU transport, but should also cover inbound and outbound EU transport.

EU harmonisation and unification towards a single electronic multimodal transport document should not be limited to an EU perspective, but should aim for the harmonisation with a global perspective, because the stakeholders consider it vital to have transport e-solutions and digital documents workable on a worldwide scale. The thought of this global approach has been expressed by the majority of stakeholders in transport and it has been brought out in several respective studies, which is well summarised as follows:

*"As to the scope of any European action, the present legal study suggests that any **action limited to intra-EU transport would only be accepted as a temporary solution, i.e. a trampoline towards global harmonisation**. A vast majority of stakeholders favoured a global regime and almost all*

---

[79] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Strategic goals and recommendations for the EU's maritime transport policy until 2018, COM/2009/0008 final

[80] COMMISSION DECISION of 09.04.2015 setting- up an expert group on Digital Transport and Logistics ('the Digital Transport and Logistics Forum'), C(2015) 2259 final

[81] http://i-cargo.eu/

[82] http://www.efreightproject.eu/

[83] Project "E-FRAME" Extend Framework architecture for cooperative systems
https://trimis.ec.europa.eu/project/extend-framework-architecture-cooperative-systems

stakeholders that favoured a European regime considered that the most suitable regime would not be restricted to intra-EU transport but should also cover inbound and outbound EU transport."[84]

The United Nations Convention on International Multimodal Transport of Goods[85], adopted in 1980, is not in force yet and it is now unlikely that it will become valid internationally, due to the long period of time that's passed since its adoption. Still, multimodal transport is operational and increasing, in spite of a lack of an established basic legal regime for multimodality. The next attempt to harmonise multimodal transport with sea leg was made in 2008, with adoption of the UN Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea[86] (the so-called Rotterdam Rules drafted by UNCTAD). This new Convention has not achieved its international recognition so far to step into force in spite that it was signed by 25 states after its adoption, whereas it needs only 20 ratifications by states to become internationally valid, however today it has just three ratifications. The emphasis on contractual freedom is consistent with the current practice of the industry to adopt contractual arrangements operating a modified network regime based on "opting-in" under the UNCTAD/ICC Model Rules, BIMCO Multidoc, BIMCO Combiconbill, BIFA STC, FIATA Multimodal Transport B/L or UIRR General Conditions.[87] Thus, multimodal transport operators can continue their businesses without a harmonised legal regime, which appears to be so difficult to achieve, for various reasons.

The lack of a harmonised legal regime is not a major obstacle for the use of a digital single multimodal transport document. The applicable legal (liability) regimes are diversified and different modes of transport have their own international conventions (carriage of goods by sea Hague Visby rules and latest Hamburg rules; by air Warsaw Convention and Montreal Protocol, by rail for Europe C.O.T.I.F.); by road for Europe C.M.R), however multimodal transport operators are using suitable standardised rules and contract forms to overcome this problem and carry on their businesses.

There appears to be no doubt that an adequately drafted multimodal transport document may serve as evidence of the existence and the conditions of the contract and as a receipt for the goods...
The main problem has proved to be weather a multimodal transport document may constitute a negotiable, or at least transferable, document of title...
According to some, the question as to the status of negotiable document of title is superfluous because the nature and particularly the speed of multimodal transport has made commercial demand for a negotiable document non-existent.[88]
The complex issues of the proper legal regime and the negotiability of multimodal transport document have not reduced the operation of multimodal transport and use of single transport document in multimodality. ***Single transport documents for multimodal transport are already operating in the EU.*** *The most frequently used are the FIATA Multimodal Transport B/L, the COTIF CIM Consignment note, the CMR Consignment note and the CIM-UIRR note.[89]*

The major problems causing the low level of digitalisation of multimodal transport documents within EU are the lack of interoperability of the EU's electronic transport-related platforms and non-recognition of electronic transport documents by public and private stakeholders.

---

[84] Final Report- TREN/CC/01-2005/LOT1/Legal assistance activities study on the details and added value of establishing a (optional) single transport (electronic) document for all carriage of goods, irrespective of mode, as well as a standard liability clause (voluntary liability regime), with regard to their ability to facilitate multimodal freight transport and enhance the framework offered by multimodal waybills and or multimodal manifests,
https://ec.europa.eu/transport/sites/transport/files/themes/strategies/studies/doc/2009_05_19_multimodal_transport_report.pdf
[85] United Nations Convention on International Multimodal Transport of Goods
https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XI-E-1&chapter=11&clang=_en
[86] United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea (New York, 2008)
http://www.uncitral.org/uncitral/en/uncitral_texts/transport_goods/rotterdam_status.html
[87] Final Report- TREN/CC/01-2005/LOT1
[88] Multimodal Transport Carrier Liability and Documentation by Ralph de Wit, LLP 1995.
[89] Final Report- TREN/CC/01-2005/LOT1

Lack of interoperability of EU electronic transport-related platforms

Currently there are data exchange tools in different stages of development and implementation for every transport mode separately. SSN, NSW and EMSW for maritime transport; Intelligent Transport Systems for road transport; Technical Specifications for Interoperability for the Telematics Application for Freight for rail transport; Single European Sky Air Traffic Management Research for air transport and River Information Services for inland waterways transport. In addition, very relevant for cargo related reporting is the electronic customs system e-Customs, which has its own standards. The Commission's task is to coordinate compliance of these different electronic systems and bring all stakeholders to an agreement on common standards of transport data exchange environments. The **systems must be interoperable, allowing the re-use of the data between different transport modes** and, in this way, avoiding the administrative burden occurring by providing the same data about cargo when the transport mode is altered.

Non-recognition of electronic transport documents

This non-recognition does not mean that stakeholders in multimodal transport do not want to use electronic transport documents.

Almost all stakeholders are in favour of electronic transport documents. *Acceptability by the private and the public sector does not seem to be an issue for the launch of electronic transport documents, nor does there seem to be a cost-issue. The main hurdles are of a legal and technological nature, i.e. there is still uncertainty as to the status of electronic transport documents from a legal perspective and many companies are not geared-up to use electronic transport documents from a technological perspective.[90]*

This problem is largely connected to the overall recognition of electronic identification and electronic signatures. Although Regulation No 910/2014[91] (eIDAS) is valid from July 1 2016, Article 6 – regulating cross-border recognition of electronic identification – shall apply from September 2018. By that deadline, technical specifications, standards and procedures must be set out and implementing acts on interoperability framework adopted. Despite that deadline, voluntary cross-border recognition is not restricted even today and front-running MSs can introduce electronic signature recognition rules that shall help facilitate the digitalisation of transport documents.

It is relevant to point out here that there is already an agreed set of standards – UN/EDIFACT (the United Nations rules for Electronic Data Interchange for Administration, Commerce and Transport) – which are recommended within the framework of the United Nations. Therefore, it is strongly recommended for EU that the standards set out under the eIDAS and other EU legal acts which may be adopted should ensure the links, interoperability and compliance with the existing global standards in order to be well prepared for the global digitalisation of transport documents. This is most relevant for maritime and air transport.

Solutions

Developing the digitalisation of documents and extended use of e-solutions in maritime transport shall facilitate digitalisation and use of electronic documents in multimodal transport. The e-Manifest can become a widely acceptable electronic transport document, usable with all modes of transport. Harmonisation and unification is needed, in the broadest extent, for the electronic systems used in the transport sector in order to establish and maintain interoperability, compatibility and use of common standards and exchange of data between different modes of transport. It is advisable to follow global standards in order to be prepared for fast

---

[90] Final Report- TREN/CC/01-2005/LOT1

[90] Regulation (EU) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC

[91] REGULATION (EU) No 910/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC

and smooth global transport document digitalisation development. Broadly acceptable modern international unification rules and a legal regime for multimodal transport will certainly facilitate its expansion and the wider use of a single electronic transport document, workable with all modes of transport.

Appendices

Appendix 1: List of references

- **Decreasing formalities – RFD and FAL convention.**

    – RFD - *Reporting Formalities Directive* (2010/65/EU),

    – *Report on 25 June 2014 on the functioning of Directive 2010/65/EU on reporting formalities for ships arriving in and/or departing from ports of the Member States.*

    – *Data Mapping Report of Directive 2010/65/EU on Reporting Formalities, Version: 1.6-Final, dated February 25, 2015.*

    – *Directive 2010/65/EU on Reporting Formalities, Data Mapping Report dated July 27, 2017, version: 1.7,* https://ec.europa.eu/transport/sites/transport/files/nsw-data-mapping-report.pdf

    – *Directive 2010/65/EU on Reporting Formalities, Data Mapping Report dated February 25, 2015, version: 1.6,* https://ec.europa.eu/transport/sites/transport/files/data_mapping_report_2010_65_eu_0.pdf

    – *REFIT Evaluation Roadmap 10.05.2016 of Directive 2002/59/EC (VTMIS) and Directive 2010/65/EU (RFD).*

    – *FAL Convention - Convention on Facilitation of International Maritime Traffic 1965.*

    – *Regulation (EC) No 725/2004 on enhancing ship and port facility security.*

    – *WORKING DOCUMENT TAXUD - 18TH ELECTRONIC CUSTOMS COORDINATION GROUP TOGETHER WITH THE EMS SUB-GROUP ON THE EMANIFEST PILOT PROJECT Summary of the meeting held in Brussels on 7 June 2016 Ref. Ares(2016)3144026 - 01/07/2016 Brussels, Taxud.a.3 FJ/gl(2016)3779165.*

- **Vessel Traffic Monitoring**

    – VTMIS - *Vessel Traffic Monitoring and Information System Directive (2002/59/EC) and. (2009/17/EC amending Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system).*

- **Port State Control**

    – PSC - *Port State Control Directive (2009/16/EC)*

    – *Paris MoU – the Paris Memorandum of Understanding, 1982*

    – *REFIT 10.05.2016 Evaluation of Directive 2009/16/EC on port State Control.*

    – *REFIT 10.05.2016 Evaluation of Directive 2009/21/EC on compliance with flag State requirements (FS Directive) and Directive 2009/18/EC establishing the fundamental principles governing the investigation of accidents in the maritime transport sector, finished December 2016.*

- **Port Reception Facilities**

– *Port Reception Facilities Directive (2000/59/EC),*

– *REFIT 08.12.2015 Revision of EU Directive 2000/59/EC on port reception facilities for ship-generated waste and cargo residues.*

- **Seafarers Certification**

  – *Mutual recognition of Seafarers Certificates Directive (2001/25/EC) and Directive 2 (2005/45/EC) Mutual recognition of seafarers' certificates issued by the Member States and amending Directive 2001/25/EC.*

  – *REFIT 10.05.2016 Evaluation of Directive 2008/106/EC on minimum level of training of seafarers and Directive 2005/45/EC on mutual recognition of seafarers' certificates issued by Member States.*

  – *STCW Convention - The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978.*

  – *STCW Code as adopted by resolution 2 of the 1995 STCW Conference of Paris, in force since 25.05.1998.*

  – *SOLAS - The International Convention for the Safety of Life at Sea: Regulation III/10.4 (basis for certification).*

- **Other relevant documents:**

  – *Commission staff working document regulatory fitness and performance programme REFIT and the 10 priorities of the commission accompanying the document communication from the commission to the European Parliament, The Council, the European Economic and Social Committee and the Committee of the Regions Commission work programme 2017 delivering a Europe that protects, empowers and defends. Strasbourg, 25.10.2016 SWD (2016) 400 final part 2/2 {com (2016) 710 final}. P.296 transport*

  – *Proposal for a regulation of the European Parliament and of the Council on a framework for the free flow of non-personal data in the European Union COM/2017/0495 final - 2017/0228 (COD) http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=COM:2017:495:FIN*

  – *PwC and Panteia 2017 ex-post evaluation of Reporting Formalities Directive (RFD) and directive on Vessel Traffic Monitoring and Information Systems (VTMIS) https://ec.europa.eu/transport/sites/transport/files/2017-rfd-vtmis_-evaluation-study.pdf*

  – *Maritime legislation fitness check (REFIT Evaluation Roadmap 06.10.2016, completion expected June 2017) covering legislation on flag state responsibilities, accident investigation, port state control, the vessel traffic monitoring and information system and, the reporting formalities for ships arriving in and/or departing from ports of Member States.*

  – *National Single Windows guidelines, Final version, dated April 17, 2015.*

  – *Summary report of the contributions received to the e-Maritime public online consultation.*

  – *EU Maritime Transport Strategy 2018 https://ec.europa.eu/transport/themes/strategies/2018_maritime_transport_strategy_en*

  – European Commission - *Legal aspects of maritime monitoring & surveillance data https://webgate.ec.europa.eu/maritimeforum/sites/maritimeforum/files/legal_aspects_maritime_monitoring_summary_en.pdf*

– *Eric Van Hooydonk* The law of unmanned merchant shipping – an exploration
https://www.nvkk.nl/files/3214/7691/3502/X-Hooijdonk-lang_Symposium-54f3185ce9304.pdf

– European Commission Study on the Analysis and Evolution of International and EU Shipping
https://ec.europa.eu/transport/sites/transport/files/modes/maritime/studies/doc/2015-sept-study-internat-eu-shipping-final.pdf

– European Commission Analysis of recent trends in EU shipping and analysis and policy support to improve the competitiveness of short sea shipping in the EU
https://ec.europa.eu/transport/sites/transport/files/modes/maritime/studies/doc/2015-june-study-sss-final.pdf

– PwC 2013 "Measures to enhance the efficiency and quality of port services in the EU
https://ec.europa.eu/transport/sites/transport/files/modes/maritime/studies/doc/2013-07-ia-port-services.pdf

– European Commission Towards a single and innovative European transport system SINTRAS barriers analysis and action plans https://ec.europa.eu/transport/sites/transport/files/2017-04-sintras.pdf

– EMSA Procedures for requesting EMSA data from maritime applications
http://emsa.europa.eu/emsa-documents/data-request-procedure/download/2822/2076/23.html

– International Maritime Organization Guidelines for the use of electronic certificates
http://www.imo.org/en/OurWork/Facilitation/personsrescued/Documents/39-Rev-1.pdf

- **Multimodal transport**

    – *The Uniform Rules for a Combined Transport Document, 1975.*

    – *UNCTAD/ICC Rules for Multimodal Transport Documents, 1992.*

    – *United Nations Convention on International Multimodal Transport of Goods, 1980.*

    – *Convention on the Contract for the International Carriage of Goods by Road (CMR), 1956.*

    – UN Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea (Rotterdam Rules), 2008.

    – Multimodal Transport Carrier Liability and Documentation by Ralph de Wit, LLP 1995.

    – Final Report- TREN/CC/01-2005/LOT1/LEGAL ASSISTANCE ACTIVITIES STUDY ON THE DETAILS AND ADDED VALUE OF ESTABLISHING A (OPTIONAL) SINGLE TRANSPORT (ELECTRONIC) DOCUMENT FOR ALL CARRIAGE OF GOODS, IRRESPECTIVE OF MODE, AS WELL AS A STANDARD LIABILITY CLAUSE (VOLUNTARY LIABILITY REGIME), WITH REGARD TO THEIR ABILITY TO FACILITATE MULTIMODAL FREIGHT TRANSPORT AND ENHANCE THE FRAMEWORK OFFERED BY MULTIMODAL WAYBILLS AND OR MULTIMODAL MANIFESTS

    – Digital transport and logistics forum, http://www.dtlf.eu/themes/e-transport-documents/fostering-use-electronic-transport-documents

Appendix 2: List of interview topics

This appendix contains a general list of interview topics. Each interview was tailored to the specific interviewee based on the following topics:

1. Project introduction.
2. Introduction to the interview goal – find out bottlenecks in maritime transport digitalisation and at the introduction/operation of e-solutions in the European Union (EU).
3. On each identified issue, there was discussion on possible solutions.

Topics related to legislation:

4. Lack of harmonised digitalisation rules regarding information requested by EU and member state (MS) - variations in creating National single window.
5. Substantial differences between the various ports and MS in interpretation and implementation of key elements of relevant EU directives in force – notification formats vary from port to port.
6. The different level/extent of implementation of EU directives by the MS/their institutions and the variations due to different national practices/legislation.
7. Request of documents in a certain format by a MS – lack of definition of standardised digital forms, lack of full unification at EU level.
8. Acceptance of digital ship documents (like those provided by Denmark) by various MS.
9. Data privacy rules and lack of the EU's common interpretation of data protection rules.
10. Reporting Formalities Directive limited scope – only some shipping related formalities covered, national and local reporting requirements not affected/not reduced by the RFD. Do MSs agree to give up, in reduction of reporting items, to the minimum level that is needed? What is the maximum that administrations and customs can request for port clearance?

Topics related to policy:

11. What is the priority of digitalisation of maritime transport in the context of digital single market?
12. Lack of sufficient coordination between relevant EU and MS institutions.
13. Very limited re-use of the (electronic) data and sharing information: an unclear legal framework for data use and sharing, unsolved questions regarding: Data ownership, Confidentiality, Liability, Access rights. The "Report once only" principle applies in the best case only to a single port call (if at all).
14. Divergence of national and EU interests in the digitalisation of maritime documents.
15. Lack of EU level harmonisation – how it is possible to improve harmonised reporting? No agreed technical specification/standard for electronic interface – EMSW and NSWs. Lack of coordination between relevant EU and MS institutions. No unification in data formats, reporting processes.

Topics related to technology:

16. The lack of a common EU technical standard for all reporting formalities. Should it be made mandatory for information submitted into the National Single Window?
17. The technical maturity to accept digital documents (lowest level – unstructured format, e.g. a scanned PDF; highest level – machine readable and liked with context data).
18. Implementation of the European Maritime Single Window (EMSW) changes in member states systems (local NSW-s).
19. The outcome of the eManifest prototype tests in phase 2 (June, 2017) and its current status.
20. How ships' reporting formalities and customs formalities complement each other.
21. The European Maritime Single Window and National Single Window interoperation today.
22. The option of an alternative EU harmonised reporting environment, based on Port Community Systems.
23. The status of the Blue Belt project today.

www.pwc.ee