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THE ONCE-ONLY PRINCIPLE PROJECT

WEB CONFERENCE

online meeting

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 737460

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The TOOP principle in the maritime domain

Wouter Kongshavn

Norwegian Maritime Authority

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Background

Ship and crew certificates are today issued and maintained in paper format, resulting in delays on delivery to the vessel and extra costs.
This certificate data exists in Maritime Administrations (MA) and Recognized organizations databases.

This leads to a few challenges:

- Resubmitting same documents each port visit
- Time constraints for control and validation of documents
- Authenticity of documentation
- Mail services required i some cases

The aim of the pilot is to provide a proof-of-concept that these problems can be solved.

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Objectives

The principal use case is fulfilling the needs of a Port State Control Officer (PSCO) in the context of a ship inspection

Data consumer: -> Port authorities, Police and Border guard

The NMA has 17 regional offices that have a PSCO role. These have a requirement to check both ship and personnel certificates and will request available up-to-date information regarding both ship and their crew prior to inspection.

Data provider: -> National maritime organizations, Recognized organizations

As flagstate the NMA hold a database with both personnel and ship certificates. These should be made available via the TOOP infrastructure to authorized and authenticated (inter)national PSCO's.

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Objectives

- Connecting the databases and registries of national Maritime Authorities and other representatives enabling certificates to be provided via secure access directly from the database of the certificate issuer.
  This would substitute paper-based or electronically-signed certificates.
- Distributing the online ship or crew certificates, while all other interested parties, such as port authorities, police and border guard, will be able to view and check the online certificates.

Proof-of-concept

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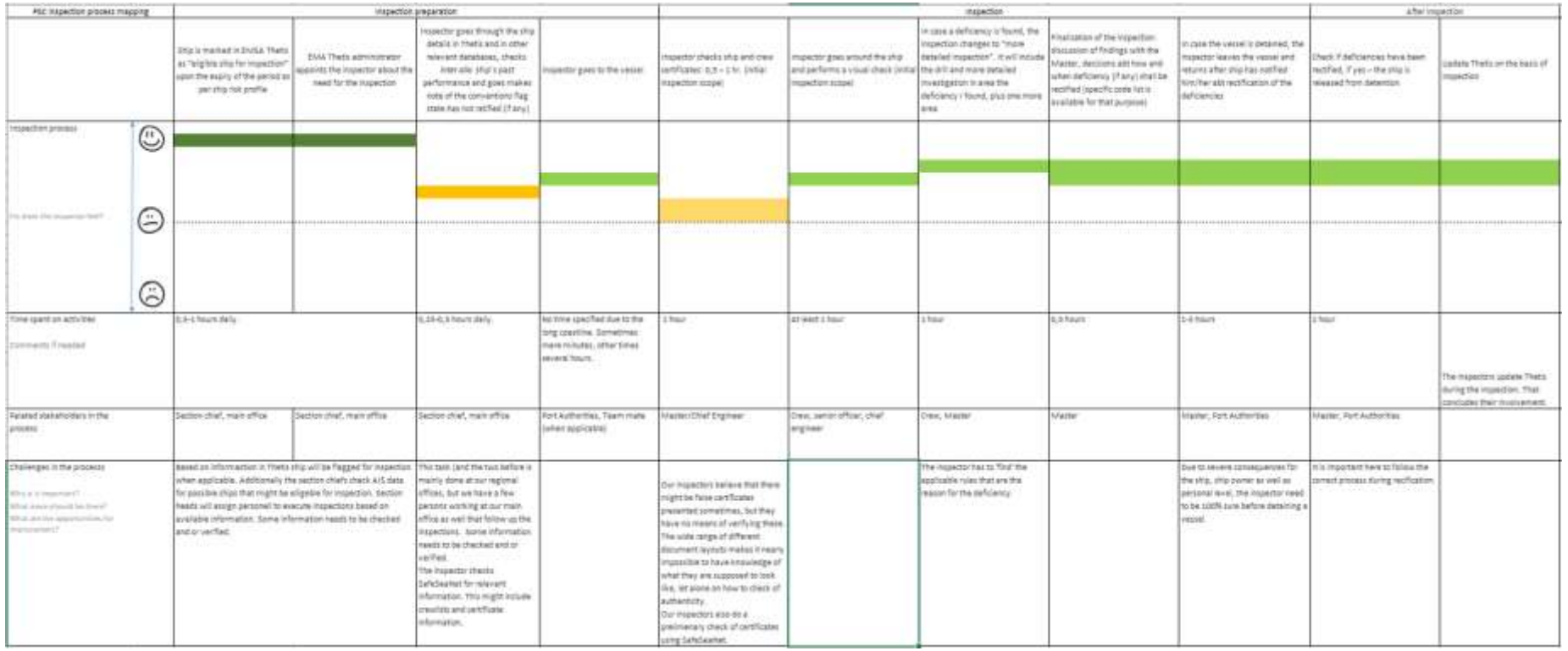
Process mapping



PSC inspection process mapping	Inspection preparation				Inspection					After inspection	
	Ship is marked in SHISA Thetis as "eligible ship for inspection" upon the expiry of the period as per ship risk profile	EMSA Thetis administrator appoints the inspector about the need for the inspection	Inspector goes through the ship details in Thetis and in other relevant databases, checks inter alia: ship's past performance and goes makes note of the convention flag state has not rectified (if any)	Inspector goes to the vessel	Inspector checks ship and crew certificates: 0,5 – 1 hr. (initial inspection scope)	Inspector goes around the ship and performs a visual check (initial inspection scope)	In case a deficiency is found, the inspection changes to "more detailed inspection". It will include the drill and more detailed investigation in area the deficiency i found, plus one more area	Finalization of the inspection: discussion of findings with the Master, decisions abt how and when deficiency (if any) shall be rectified (specific code list is available for that purpose)	In case the vessel is detained, the inspector leaves the vessel and returns after ship has notified him/her abt rectification of the deficiencies	Check if deficiencies have been rectified, if yes – the ship is released from detention	Update Thetis on the basis of inspection
Inspection process											
Time spent on activities	0,5-1 hours daily		0,25-0,5 hours daily	No time specified due to the long coastline. Sometimes mere minutes, other times several hours.	1 hour	at least 1 hour	1 hour	0,5 hours	1-4 hours	1 hour	The inspectors update Thetis during the inspection. That concludes their involvement.
Related stakeholders in the process	Section chief, main office	Section chief, main office	Section chief, main office	Port Authorities, Team mate (when applicable)	Master/Chief Engineer	Crew, senior officer, chief engineer	Crew, Master	Master	Master, Port Authorities	Master, Port Authorities	
Challenges in the process	based on information in Thetis ship will be flagged for inspection when applicable. Additionally the section chiefs check AIS data for possible ships that might be eligeble for inspection. Section heads will assign personell to execute inspections based on available information. Some information needs to be checked and or verified.		This task (and the two before is mainly done at our regional offices, but we have a few persons working at our main office as well that follow up the inspections. Some information needs to be checked and or verified. The inspector checks SafeSeanet for relevant information. This might include crewlists and certificate information.		Our inspectors believe that there might be false certificates presented sometimes, but they have no means of verifying these. The wide range of different document layouts makes it nearly impossible to have knowledge of what they are supposed to look like, let alone on how to check of authenticity. Our inspectors also do a preliminary check of certificates using SafeSeanet.		The inspector has to 'find' the applicable rules that are the reason for the deficiency		Due to severe consequences for the ship, ship owner as well as personal level, the inspector need to be 110% sure before detaining a vessel.	It is important here to follow the correct process during rectification	

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Mapping results

The results of the mapping process have led to a dialog with the CCTF to incorporate changes to the technical solution.

The proactive service oriented approach from the CCTF has been a crucial part of the project.

- Both when it comes to showing possible applications and creating understanding.
- Transparency while working and public information sharing has helped the member nations to implement the solution

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Pilot Area 3: Long term goals

- From TOOP pilot to world wide? implementation
- Large scale adoption of the solution has a great potential to streamline the process of validating and checking ships and their crew.
- Stakeholders: Maritime administrations, Recognized organisations (classification societies), Digital Health Information Systems, charterers, vetting agencies, border guard, port authority, etc
- Anticipated added value:
  - Always authentic certificate data
  - Reduce the workload of Master/crew
  - Reduce the PSC inspection time o/b
  - Falsification virtually impossible
  - Certificate's instant revoked
  - Certificate's instant availability

  SAFETY & SECURITY

  - Automatic rules for inspection
  - Needed for unmanned ships
  - Apps market

  OPEN DATA

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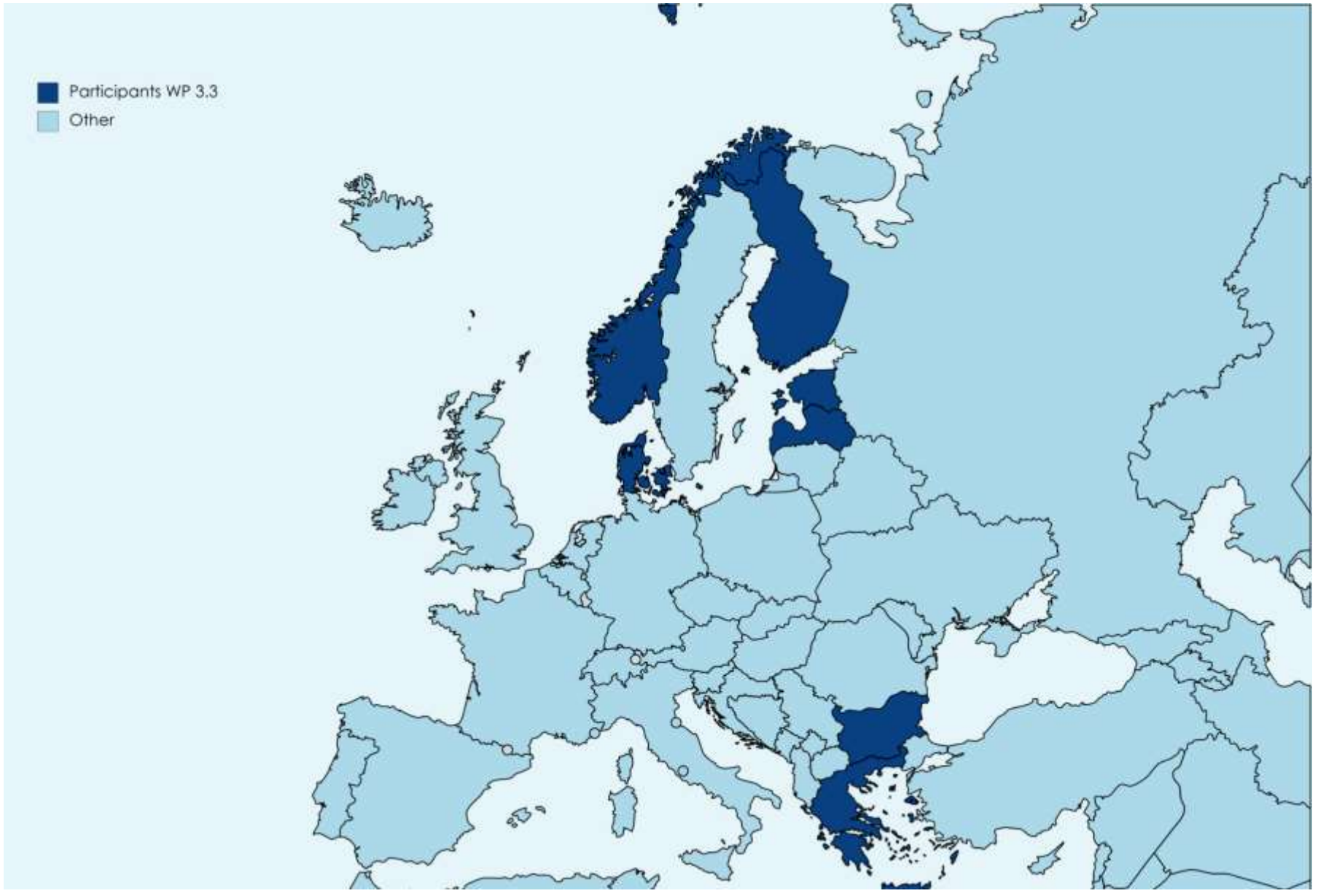
Participants WP 3.3
Other

Achievements

- Test phase started later then expected due to time needed to modify the TOOP architecture towards maritime environment requirements
- Close cooperation between
  - National Maritime Authorities, CCTF (WP2) and Recognized organizations
- First successful test summer 2019
  - Installed TOOP technical components version 1
- Successful data exchange between 5 participating nations
- Started working on proposal for
  - Governance
  - Sustainability

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Lessons Identified

- The Once-Only Principle can work in the maritime environment!
- The struggle is real
- Challenging to ‘sell’ a decentralized solution to a centrally driven system

And…

- For the benefits to outweigh the practical challenges a certain amount of nations need to be connected to the database/sharing data
- During the project, other initiatives have come forth and other actors, both national and international, have established own plans for similar functionality.*
- There is no ‘market’ for the TOOP functionality regarding vessel certificates
- There is an interest related to securely exchanging personal certificates
  - Interested parties are encouraged to reuse the experiences and knowledge gathered in this work package

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Lessons learned

Other considerations not addressed in the project:

- What could real world use after the project look like
  - Which nations will commit to operating this way?
  - Who would be responsible for maintaining the network / infrastructure?
  - Who can request access?
- For personal certificates -> what are the GDPR consequences, if any?
- Further development and future changes in a decentralized environment

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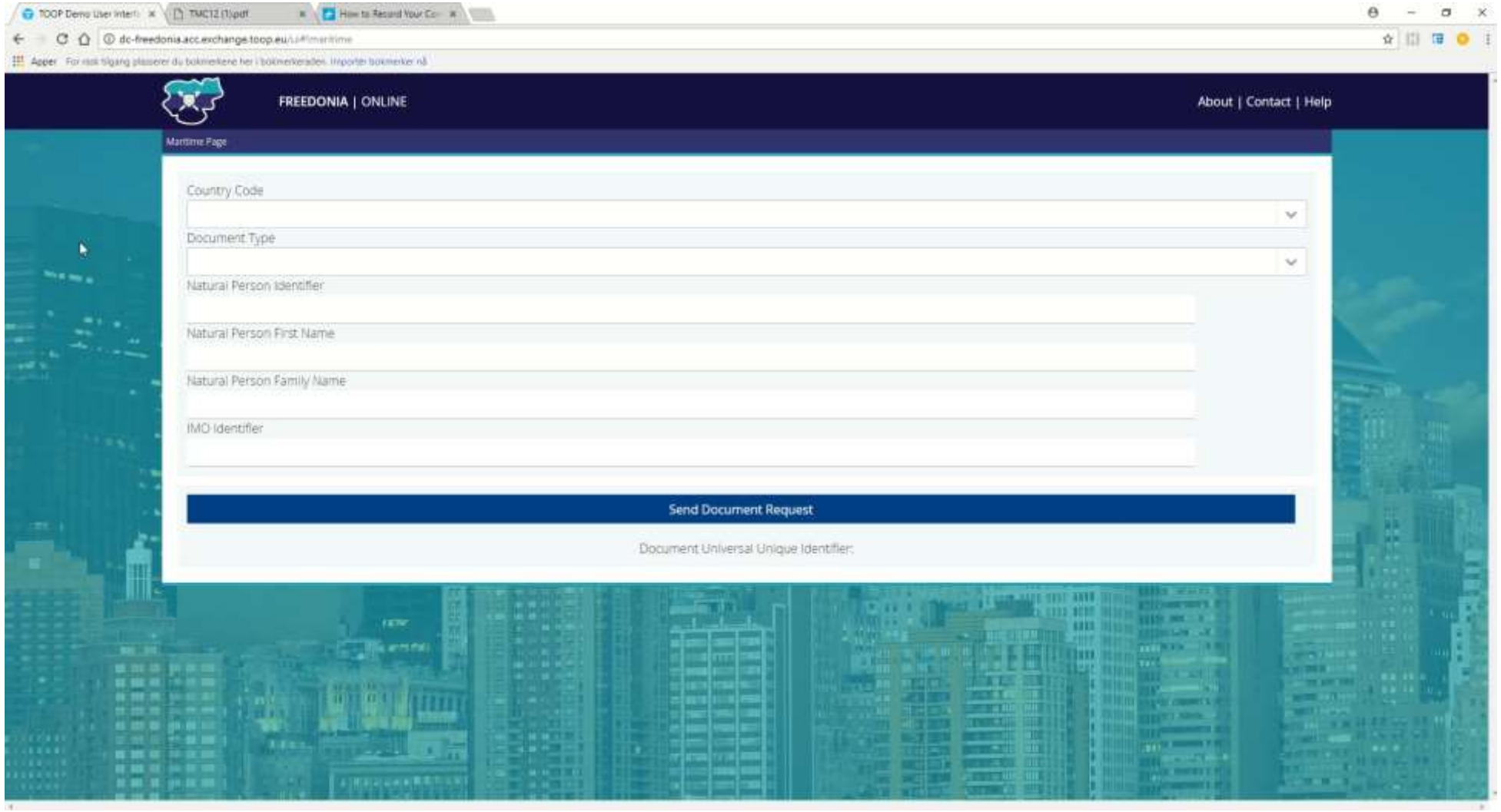
Example of exchanging information