



DanPilot



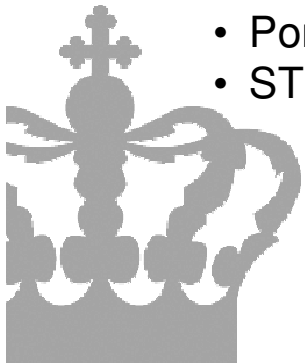
DanPilots perspective/use of E- navigation

Your Time, Your safety – Our commitment

Roadmap of this presentation

DanPilot – a major pilotage provider

- In numbers
- Transit
- Port
- STS



E-nav in a DanPilot perspective

- E-nav definition
- Collection
- Integration
- Exchange
- Presentation
- Analysis

What then?

- Present situation
- The desired future



DanPilot – a major pilotage provider

- App. 21.000 pilotages performed per year
- App 50% transit and 50% port pilotages
- App. 1.5 mil. NM performed
- 160 pilots
- 100 boat men
- 22 pilot stations
- 30 pilot launches
- Serving 68 ports
- Full service provider
- 100% owned by the Danish State
- Obligated to serve all Danish ports & transit fair ways
- Non profit company – self financed (no subsidies)

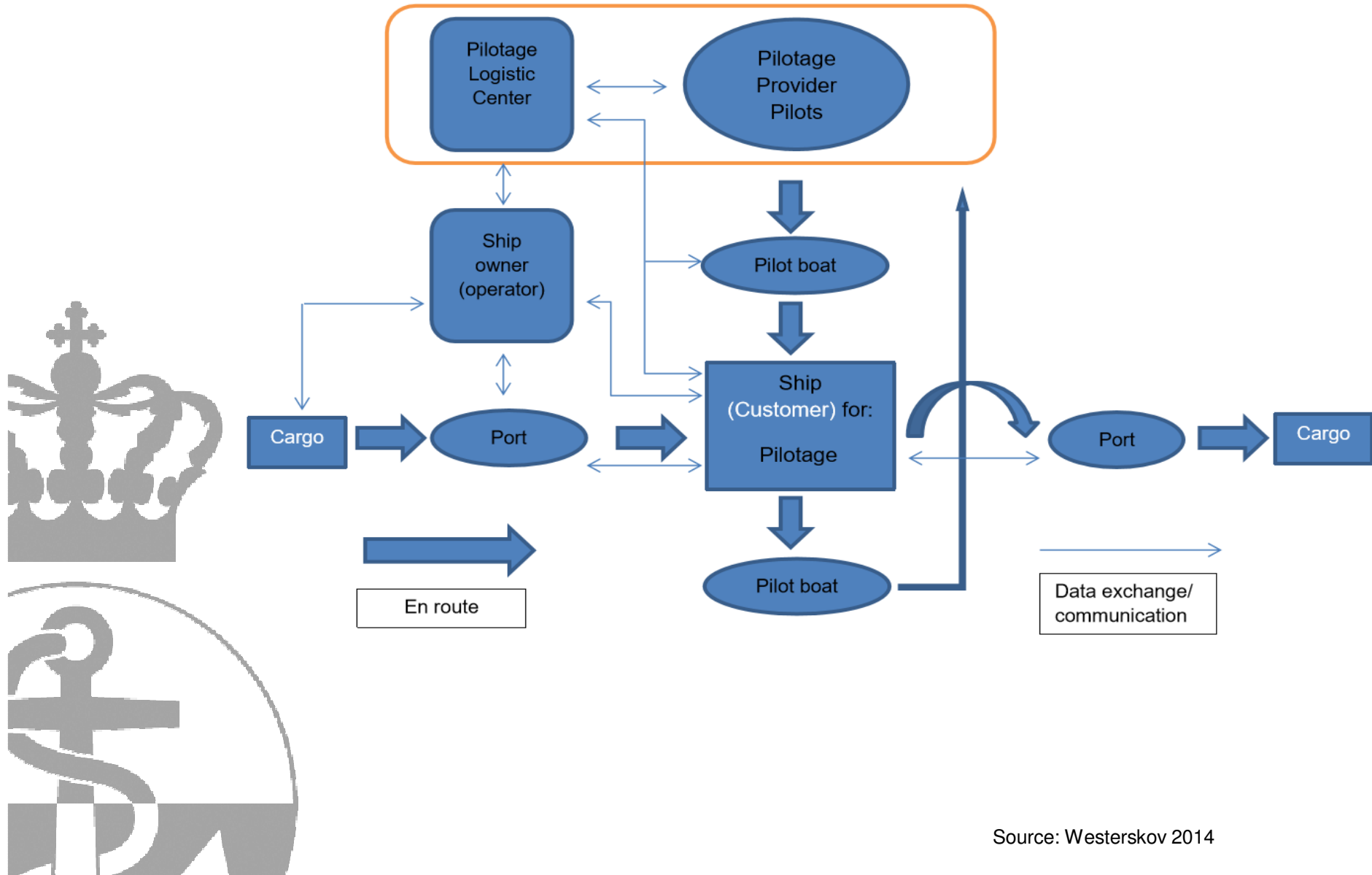


DanPilot – a major pilotage provider

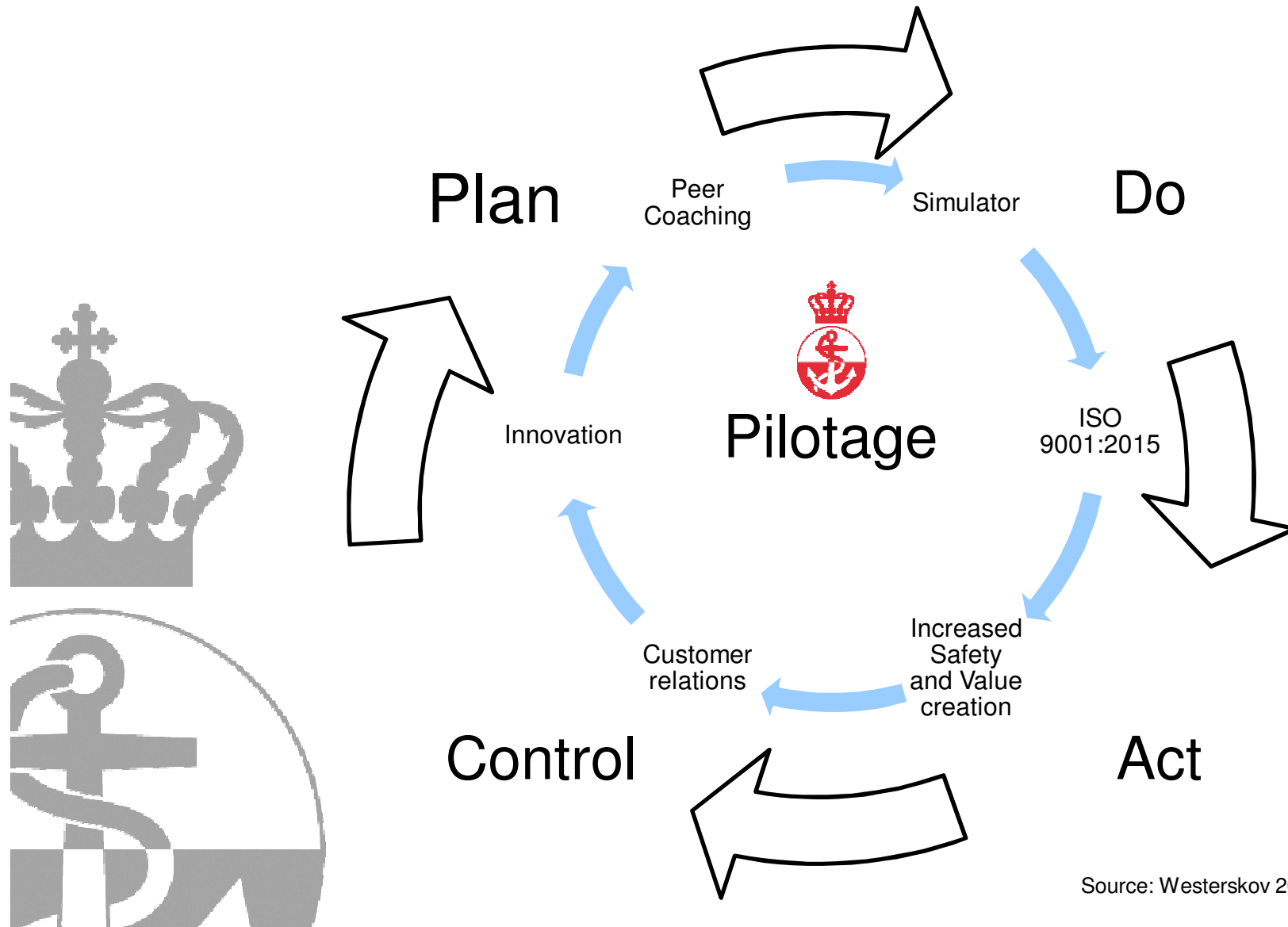


Source: Westerskov, Svane & DanPilot 2017

DanPilot – a major pilotage provider



E-nav in a DanPilot perspective



Source: Westerskov 2016

E-nav in a DanPilot perspective



+ port server facilities



OTA (Over The Air)
differential corrections

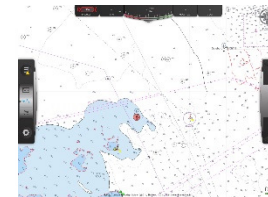
Real time traffic overview

Distributes live position
data with predicted paths
between pilots (via the
SafePilot App) and shore
based SafePilot clients

Data recording and
storage

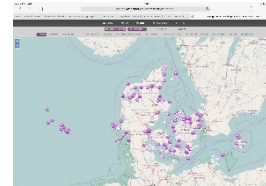
Personal folder with
backup of each iPad

Automatic
synchronization between
ship and shore



Central management and
distribution of files as
routes, fender lines,
distance lines, locks,
etc. to iPads by web
interface

Web interface for
Electronic Navigational
Chart (ENC) management
and distribution to iPads



E-nav in a DanPilot perspective

E-navigation is defined as *“the harmonized **collection, integration, exchange, presentation and analysis** of marine information on board and ashore by electronic means to enhance berth to berth navigation and related services for safety and security at sea and protection of the marine environment.”*



E-nav in a DanPilot perspective

Collection & Integration:

All voyages with DanPilot can be seen, recorded, *analyzed* and shared between pilot-pilot and pilot-operations. As an example all pilots can monitor/identify vessels with pilots from DanPilot onboard real time

Exchange:

Replay is possible of all recorded pilotages performed enabling preparation of best practice, safe operation & route optimization. The stored data can further be use in simulators and E-learning. The PPU is used in the simulator, on board the vessels and for evaluation/documentation

Presentation:

In this case a PPU (Portable Pilot Unit) IPAD with SafePilot software



What then?

Present situation:

Equipment on board are not ready to support integration in relation to data exchange. All data exchange (AIS, nav.warn, notice to mariners, annotations, chart updates, routes etc.) are made via a web based interface. Data has to be found on many different webpages



Picture and vessel same age

Source: Rønn 2016

What then?

Desired future:

Instead of individual managed web interfaces; a one point of contact with the required data possibilities via e.g. a maritime cloud, would be of great benefit. This would enable a link between vessel-vessel and vessel-shore



Source: Svane 2016



What then?

The final success (implementation and usage) depends on whether the concept of E-nav creates the necessary conviction amongst stakeholders that it creates increased safety and monetary value



Common goal



Thank you