

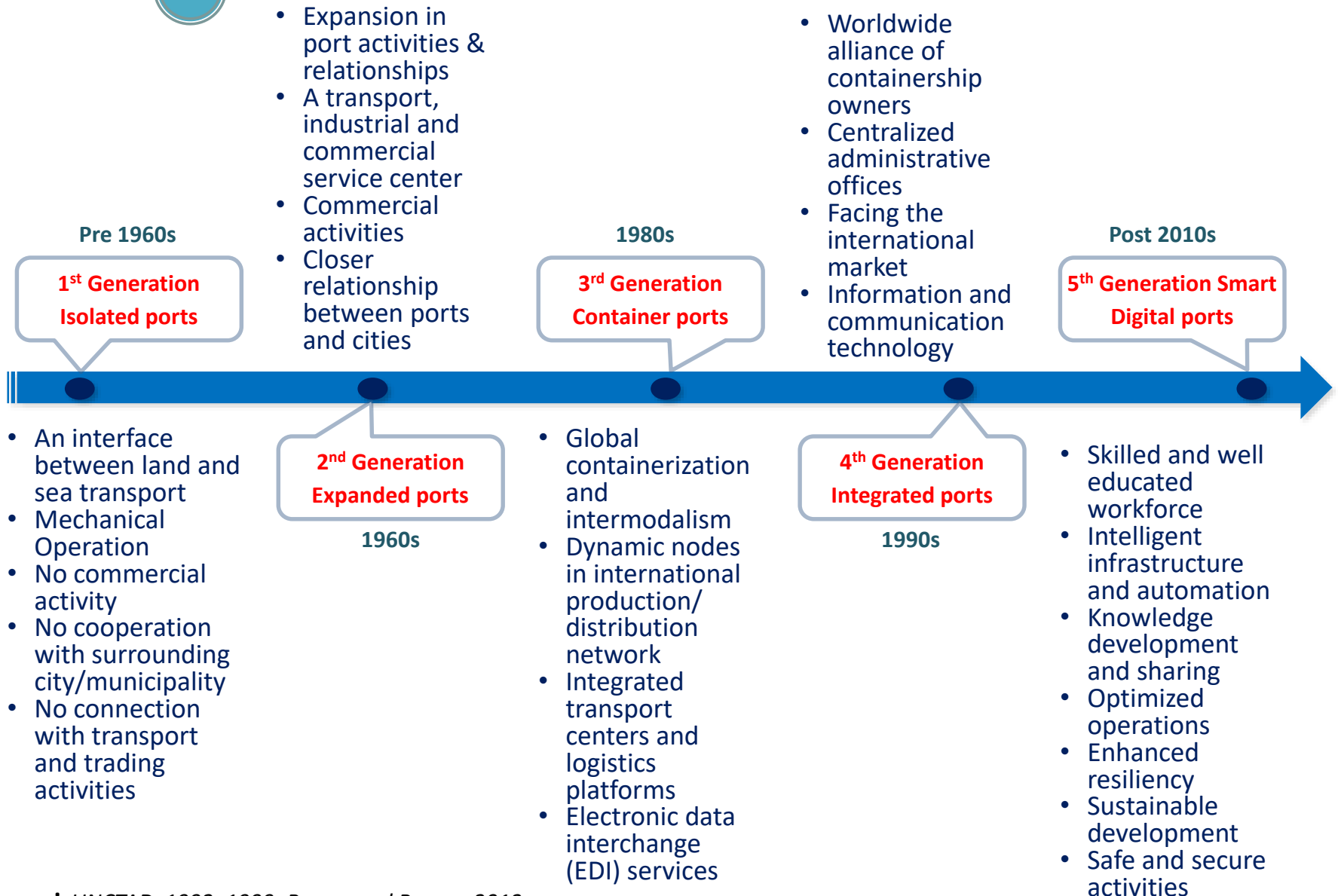


CII e-conference on Indian Maritime Technology-2020

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Port Development Through History

2



Source: UNCTAD, 1992, 1999; Barros and Barros, 2013

Stages of Port Digitization

3

LEVEL 1



Digitization of Individual Parties in the Port

Many different parties operate at a port. For instance, there's the Port Authority, service providers and terminals. By digitizing their processes, they can all work more efficiently. Every organization does this for itself and largely keeps the development under their own control.

LEVEL 2



Integrated Systems in Port Community

The digitization of individual processes heralds the digital exchange of information within the port community. This leads to reliable, efficient and paperless data flows. With current technology, this can be done securely.

LEVEL 3



Logistics Chain Integrated with Hinterland

At this level, hinterland players are also involved in the digital communications within the port community. Information from the PCS about, say, ETA/ATA and ETD/ ATD are shared with inland terminals, empty depots, carriers etc. Consequently, parties in the hinterland have a real-time insight into cargo and ship visits, which makes better planning possible.

LEVEL 4



Connected Ports in the Global Logistics Chain

At this level, the communications between a port and its hinterland are expanded to other ports around the world, and these in turn are digitally linked to their own hinterland. This way, an integrated door-to-door digital logistics chain is created on a global scale, making optimum use of different transport modes.

Source: White Paper- Port of Rotterdam

Role of Technology in Ports

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Technology plays immense role in meeting intense demand, reduce cost and improve efficiency

01

Technology helps immensely in removing touch-points across supply chain network thus improving efficiency and reduce cost .

02

Digital technologies help improve the users experience e.g. Real time cargo tracking enable customers get the status of the cargo anytime, leading to a frictionless and hassle-free experience

03

Technologies such as Moor Master, DUKC etc. is helping ports in safe, faster and efficient handling of vessels

04

Other technology modules such as automatic berth allocation, plot/yard planning, linking of rail booking with port systems etc. are helping ports improve their operational efficiencies

05

Machines and equipment connected with smart sensors (IoT devices) unlock the potential of connecting processes and leverage data to enable synchronized and intelligent planning across operational silos

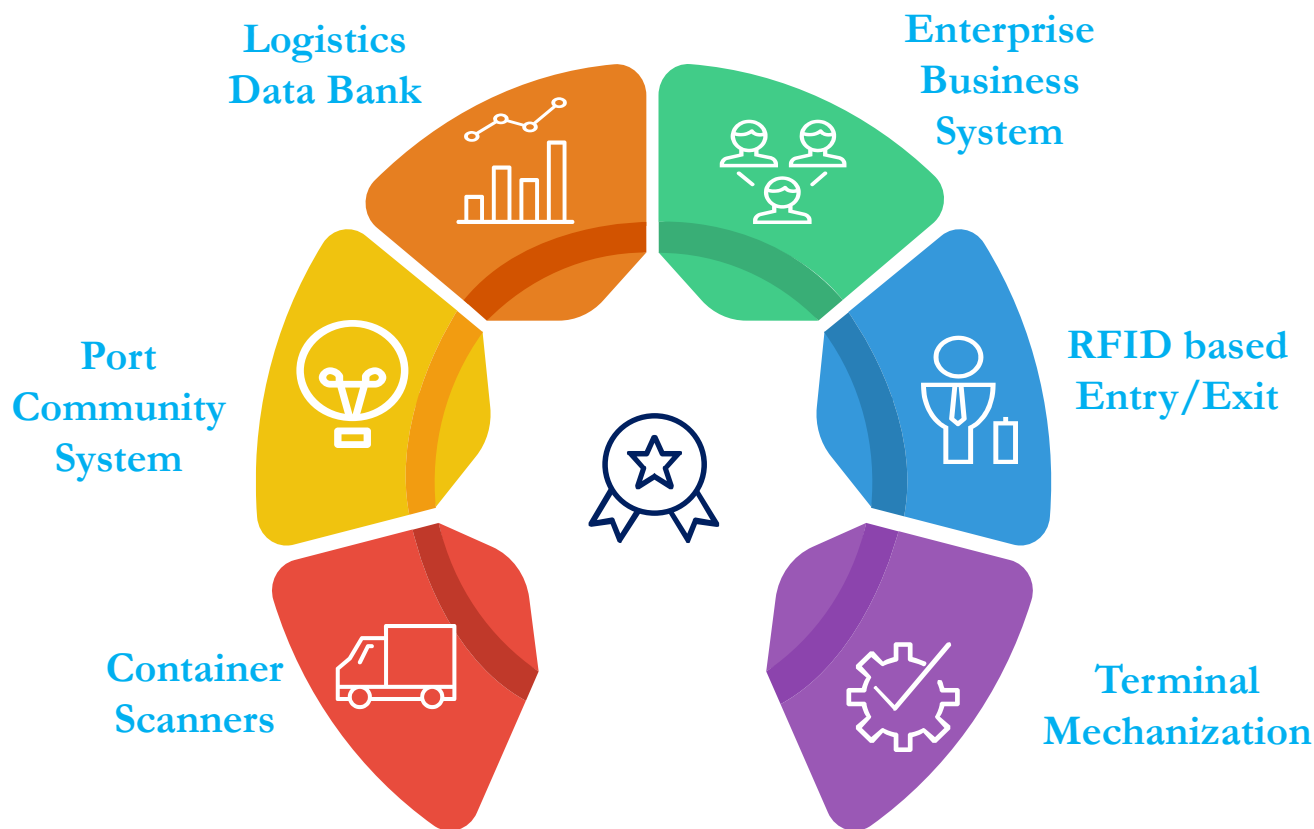
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Using technologies in ML and AI can help ports make more sense of the data and get better insights for improving efficiencies and drive down the cost

07

The Blockchain technology and Smart Contracts can resolve the issue of trust among various stakeholders and make information sharing and transactions more secure and fast

Number of measures in modernisation, mechanisation and digital transformation of Major Ports have been taken over the past few years. These measures have also helped in improving India's rank in the World Bank's Ease of Doing Business. As per the latest Ease of Doing Business Ranking (Doing Business 2020) released by World Bank, India ranked 63 among 190 countries. India has leapt 14 ranks over its rank of 77 in the DBR 2019. Back in 2015, India was ranked 142. India's Trading Across Border ranking improved to 68 from 80 last year. In 2018, India's ranking in Trading Across Border parameter was 146.



Single Window Platform is an electronic medium of transacting between trade users and Govt. authorities via one entry point (input) thus eliminating duplication of data and work

Upgraded
Version

PCS 1x is an upgraded version of PCS, which has been launched in 11th December, 2018 in which 26 out of 27 stakeholders are already on-boarded

Assimilative
and
Inclusive

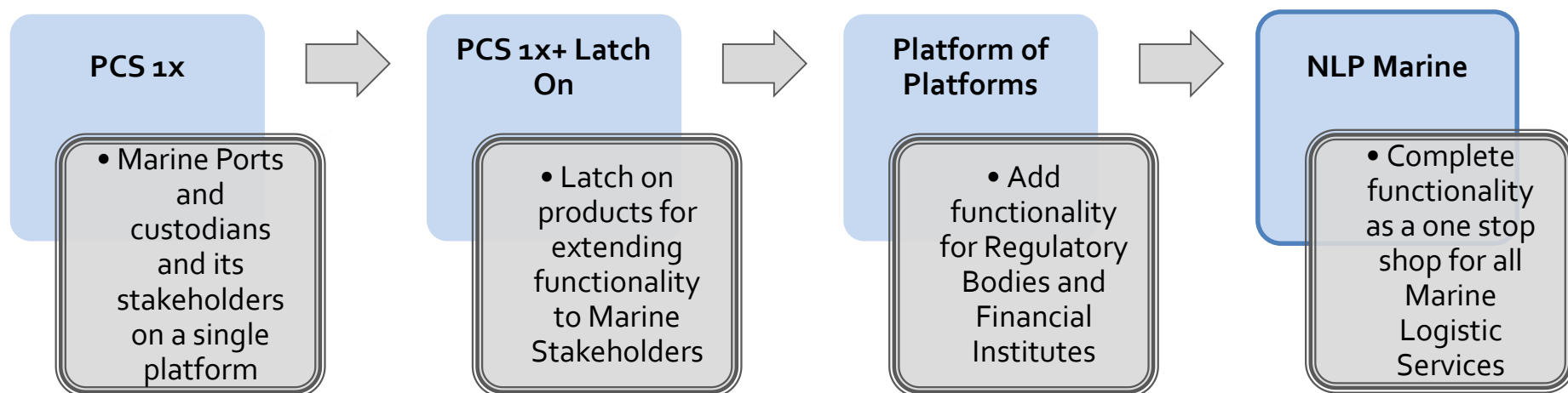
PCS 1x platform assimilative and inclusive, it offers leveraging existing technology solutions rather than build new solutions from scratch

Open
Platform

Open Platform' in PCS 1x facilitates various time-tested solutions to connect with PCS and provide an unparalleled ability to enhance services to various stakeholders

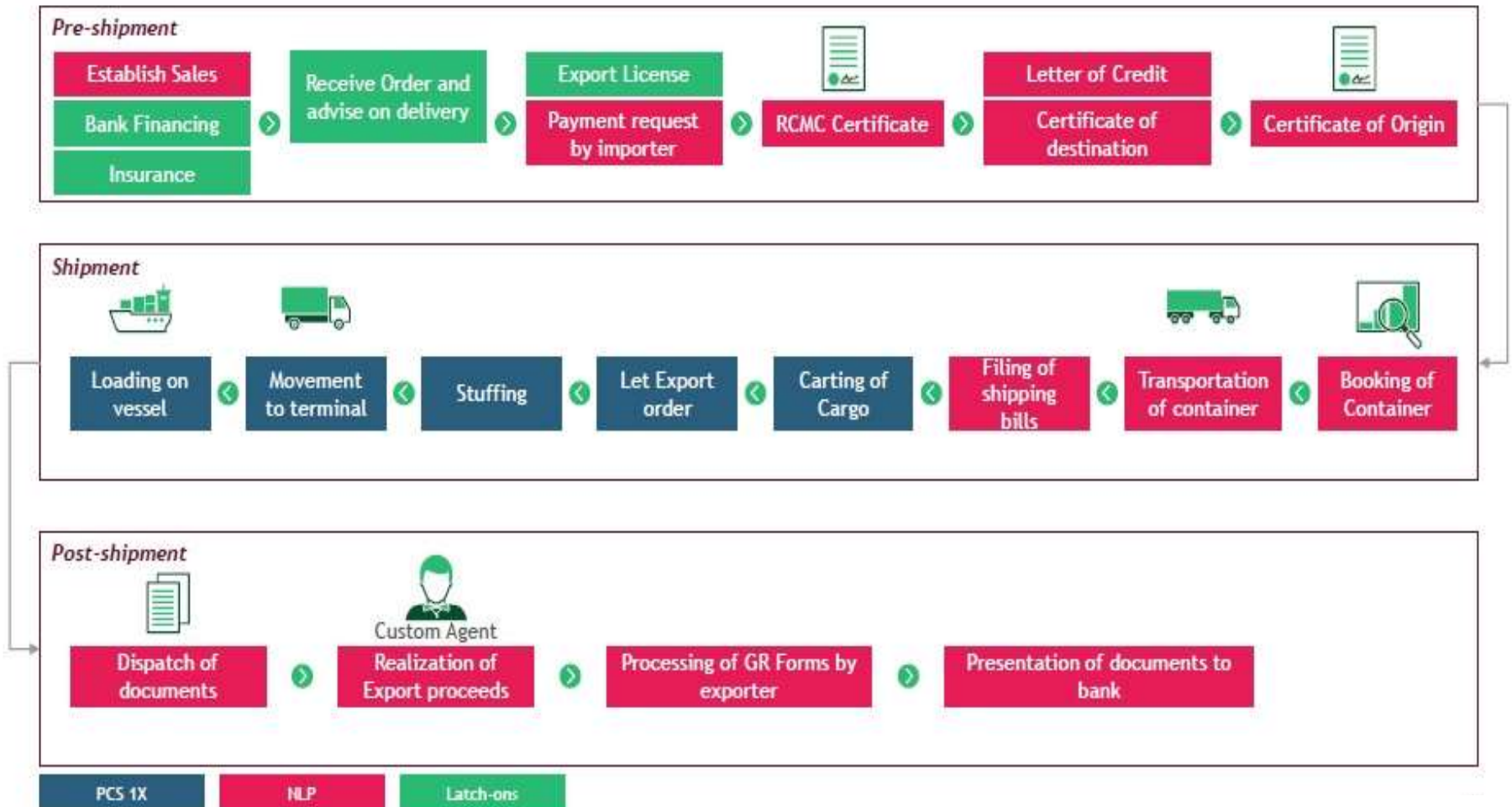
Latch-on
feature

The "Latch On" feature facilitates the trade in providing the required features that cannot be directly embedded into any Single Window Platform



- ✓ **National Logistics Portal (NLP)–Marine which will bootstrapped with current Port Community System 1x, will be a digital transactional platform to bring all stakeholders in the logistics sector on board to cut down transaction cost and time for businesses**
- ✓ **NLP Marine will cover all activities which are part of EXIM by Sea Trade, Coastal Trade and trade using Inland Waterways referred as Marine Activates**
- ✓ **NLP Marine will be designed as an “open platform” and in a manner that allows coexistence of multiple service providers to provide Marine related services independently or by using connectivity options and data**
- ✓ **Dashboard and Analytics to Authorities to keep track of complete trade happening across India**
- ✓ **All documents generated by the proposed solution will be in line with global best practices and standards**
- ✓ **The proposed solution will have the capability to integrate using APIs with various Port Operating Systems/ Terminal Operating Systems and other stakeholder(s) systems in the ecosystem**

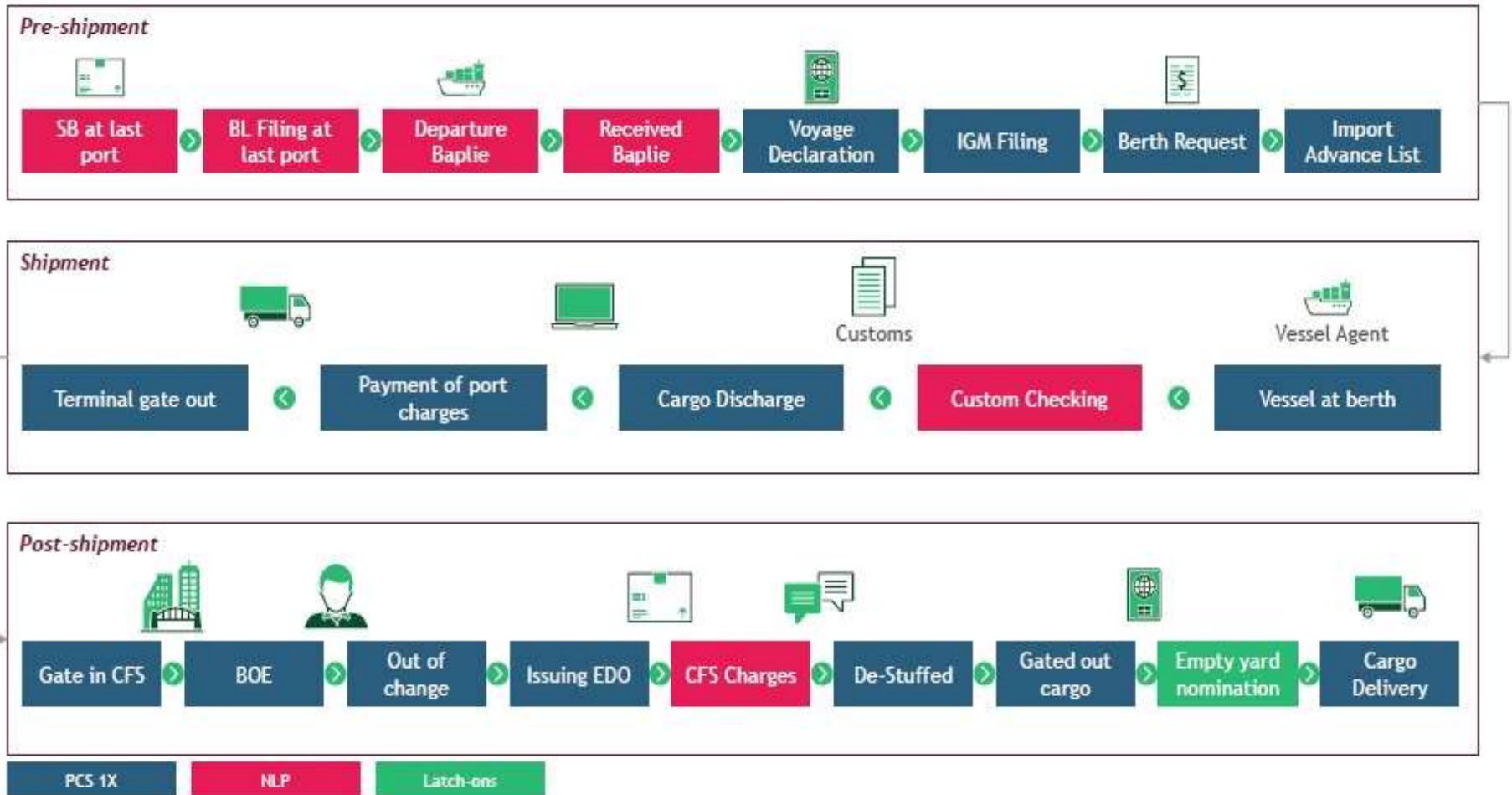
National Logistics Portal (Marine) | System Based Paperless Export Value Chain



NLP Marine- Import Value Chain

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National Logistics Portal (Marine)| System Based Paperless Import Value Chain



National Logistics Portal (NLP) | 4 modular building blocks



Integrated National
Logistics Portal (NLP)

*Under Ministry of
Commerce (MoC)*

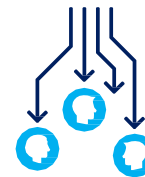
Each building block to be developed in a modular way and integrated basis latch-on services



NLP Land



NLP Air



NLP E-marketplace



NLP Marine

Undertaken by other ministries

*Current scope of
development*

THANK YOU