

# Logistics for Life

**Logistics** Industry Coalition **for**  
**L**ong-term, **I**CT-based **F**reight Transport **E**fficiency.



Work Shop Chalmers December 2011

## The L4LIFE Road Map

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# Outline of the presentation

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- Introduction to L4L
- Objectives of the Road Map
- Approach
- The six objectives
- Main ICT Challenges

# Introduction to L4L

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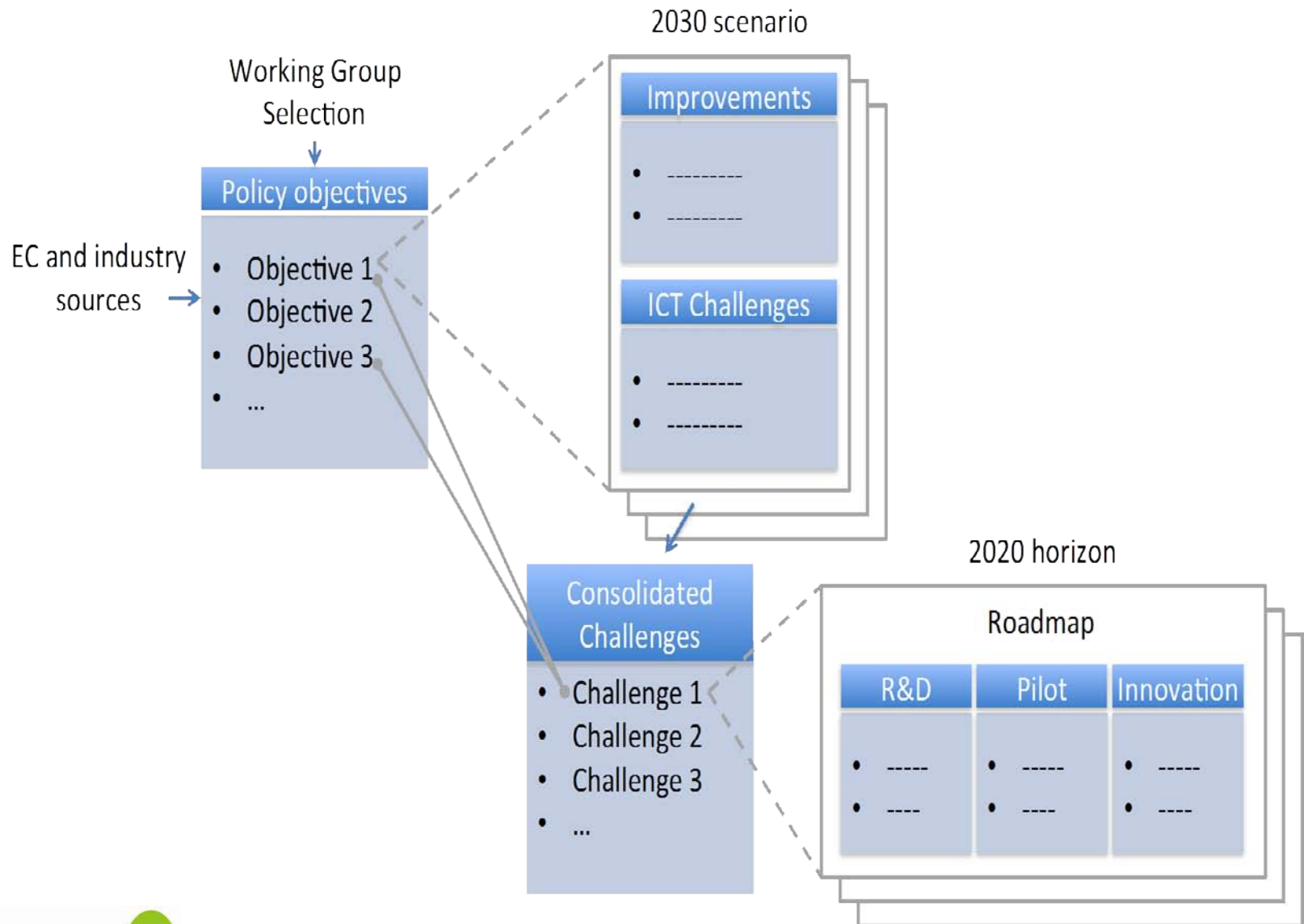
- L4L is a Coordination and Supporting Action funded under FP7 by DG INFSO
- Coordinated by INSIEL S.P.A., Italy
- Partners; INSIEL S.P.A, VTT, DHL, Dachser, Volvo, Chalmers, SeaRail, Singular Logic, TREDIT, FHV, Gebrüder Weiss, BIBA, MARLO, SINTEF, Kuhne & Nagel, BLG, COSCOEL, Intel
- Logistics for LIFE brings together leading logistic companies, technology providers and research organizations working on innovative ICT solutions to ensure long-term sustainability of the logistic industry by increasing its operational efficiency. The project is motivated by freight transport heavy reliance on fossil fuel, its contribution to CO2 emissions and by its impact on the environment and quality of life. These issues are counterbalanced by considerations specific to the logistics industry, where attempts to direct cargo towards environment friendly transport modes are failing to meet expectations and firms face problems of volatile fuel prices, infrastructures saturation and low margins typical of a commoditized sector

# The objectives of the L4L Road Map

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- To identify challenges to be overcome by ICT for freight transport and logistics to increase the sustainability of the sector
- To describe how these challenges will be practically overcome until year 2030 according to the recent European Commission White Paper and to various other policy documents consulted by the Working Group
- The long-term vision in our roadmap is summarized by six long-term policy objectives representing changes expected by 2030
- The Roadmap indicates areas of intervention for research, development and pre-competitive deployment expected in key technological areas

# Approach



# L4L Vision and EU policy objectives

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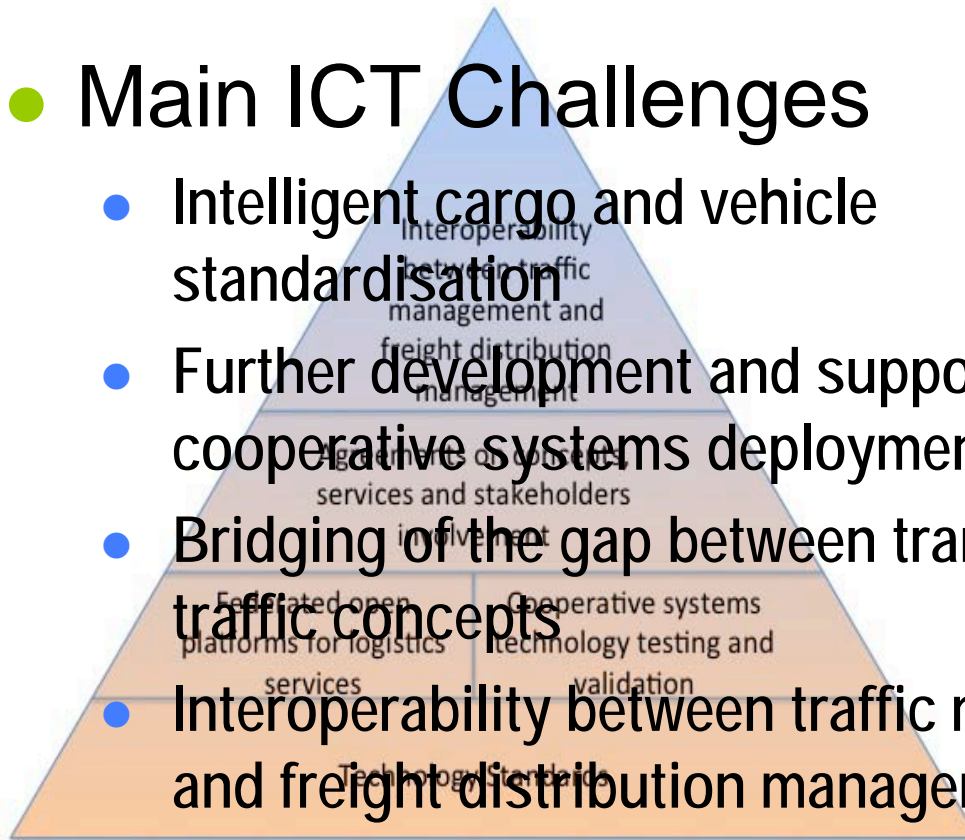
Policy objectives	Improvements by 2030
Co-modal freight corridors.	30% of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050, facilitated by <i>efficient and green freight corridors</i> .
Zero-emissions urban logistics.	Achieve essentially CO <sub>2</sub> -free city logistics in major urban centres by 2030.
Low-carbon freight transport services.	Significant market-share for low-carbon services for environmentally concerned customers, taking into account emissions alongside price and speed of transport.

Policy objectives	Improvements by 2030
European multimodal transport information, management and payment system.	Increased reliability of transport schedules by 50%, as measured by average time loss, (scheduled time vs. real travel time).
End-to-end supply chain security	Make sure that the EU is a world leader in safety and security of transport in all modes of transport.
Cooperative vehicles and infrastructures.	The large majority (80%) of vehicles and infrastructures will be cooperative, supporting safe and optimal utilization of transport infrastructures and improvement of driver's behaviour.

# Zero-emission urban transport

## ● Main ICT Challenges

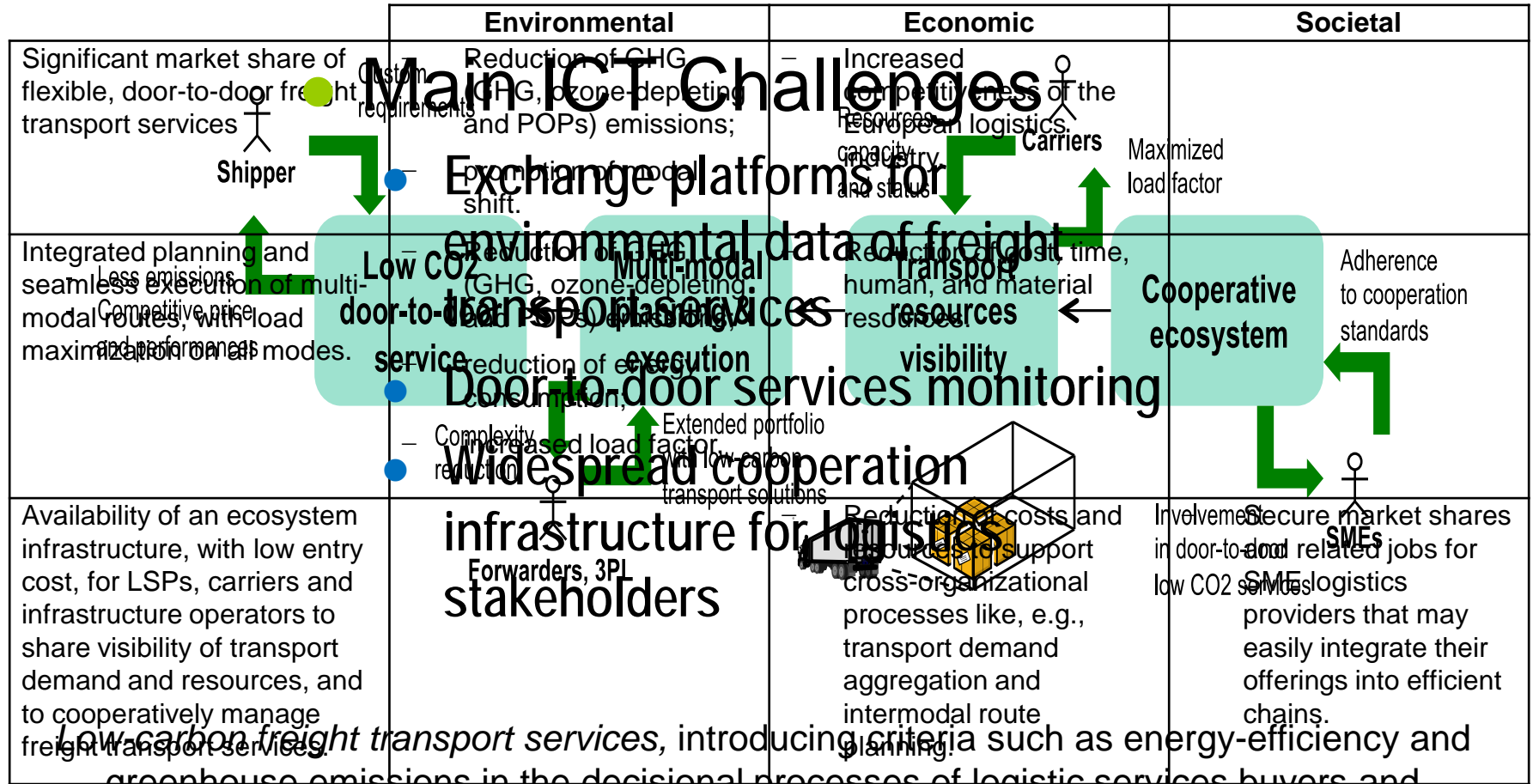
- Intelligent cargo and vehicle standardisation
- Further development and support for cooperative systems deployment
- Bridging of the gap between transport and traffic concepts
- Interoperability between traffic management and freight distribution management



	Societal
el	Reduced numbers of vehicles in the urban areas.
	Reduced numbers of diesels vehicles in urban areas, hence reduced emissions, reduced noise, increased road safety.

*Zero-emissions urban logistics*, relying on electric delivery vehicles, optimal utilization of load capacity and city infrastructure, and synchronization between urban and long haul freight flows

# Low-carbon freight transport



Low-carbon freight transport services, introducing criteria such as energy-efficiency and greenhouse emissions in the decisional processes of logistic services buyers and planners.

# Road Map Challenges

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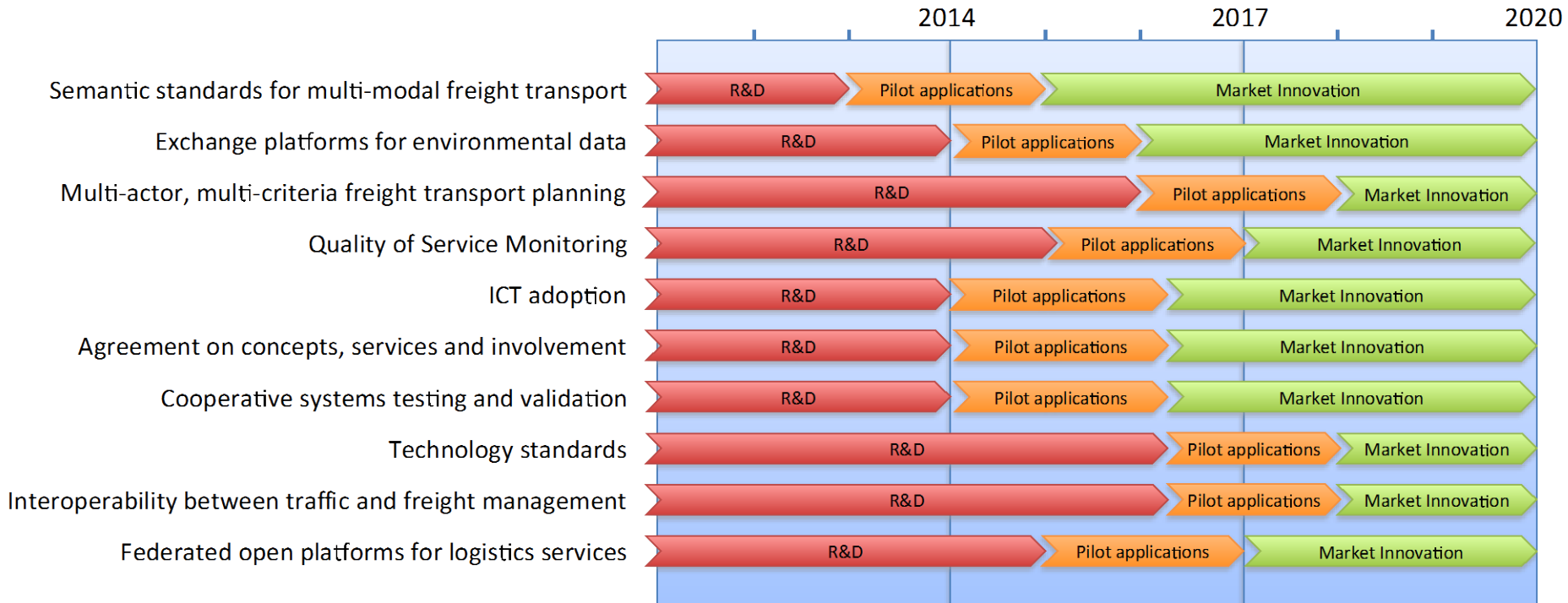
Main Challenge	Policy Objectives
<ul style="list-style-type: none"> <li>– Semantic standards for multi-modal freight transport</li> </ul>	1. Co-modal freight corridors
	2. Zero-emissions urban logistics
	3. Low-carbon freight transport services
	4. European multimodal transport information, management and payment system
	5. End-to-end supply chain security
<ul style="list-style-type: none"> <li>– Exchange platforms for environmental data</li> </ul>	3. Low-carbon freight transport services

Main Challenge	Policy Objectives
– Multi-actor, multi-criteria freight transport planning	1.Co-modal freight corridors 3.Low-carbon freight transport services
– Quality-of-service monitoring of the supply chain	3.Low-carbon freight transport services 4.European multimodal transport information, management and payment system 5.End-to-end supply chain security
– ICT adoption	3.Low-carbon freight transport services 6.Cooperative vehicles and infrastructures

Main Challenge	Policy Objectives
<ul style="list-style-type: none"> <li>– Agreement on concepts, services and stakeholder involvement</li> </ul>	2.Zero-emissions urban mobility
	3.Low-carbon freight transport services
	6.Cooperative vehicles and infrastructures
<ul style="list-style-type: none"> <li>– Cooperative Systems Technology testing and validation</li> </ul>	2.Zero-emissions urban mobility
	6.Cooperative vehicles and infrastructures
<ul style="list-style-type: none"> <li>– Technology standards</li> </ul>	4.European multimodal transport information, management and payment system
	5.End-to-end supply chain security
	6.Cooperative vehicles and infrastructures

Main Challenge	Policy Objectives
<ul style="list-style-type: none"> <li>– Interoperability between traffic management and freight distribution management systems.</li> </ul>	<ol style="list-style-type: none"> <li>1. Co-modal freight corridors</li> <li>2. Zero-emissions urban mobility</li> </ol>
<ul style="list-style-type: none"> <li>– Federated open platforms for logistics services</li> </ul>	<ol style="list-style-type: none"> <li>1. Co-modal freight corridors</li> <li>3. Low-carbon freight transport services</li> <li>4. European multimodal transport information, management and payment system</li> </ol>

# Overview



# Federated open platforms for logistics services

2015 R&D	2017 Pilot applications	2020 Market innovation
<ul style="list-style-type: none"> <li>- Develop and test services directory, identification and delivery frameworks, allowing services to be described and published in conformance with the logistics business ecosystem.</li> <li>- Develop and test the semantic mediation mechanisms to map services and information across the variety of transport logistics domain.</li> <li>- Develop and test a small set of important use cases showing how the mechanisms in the infrastructure can be utilized for exchanging scenario related information.</li> </ul>	<ul style="list-style-type: none"> <li>- Deploy the federated open platform on a sufficiently large ecosystem involving both public and private clouds of services.</li> <li>- Evaluate how the possible benefit is used and understood within the organizations of the use of federated platforms. Definition of business models.</li> <li>- First buyers - opinion leaders from supply chain.</li> </ul>	<ul style="list-style-type: none"> <li>- Deployment on the market.</li> <li>- Inclusion and use federated open platform as service in the supply chain, with access from all stakeholders.</li> <li>- Enriched catalogue of services to be offered through the service delivery framework and the platform</li> </ul>

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# Thank you for listening

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