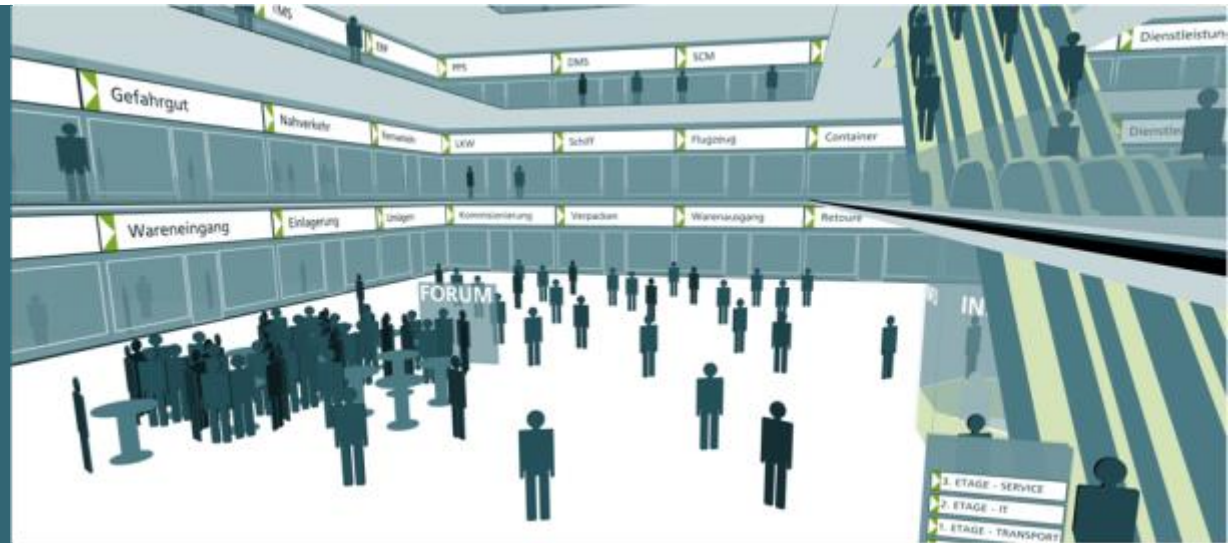




logistics mall

Fraunhofer-Innovation Cluster »Logistics Mall – Cloud Computing for Logistics«



Dr. Axel T. Schulte

Moscow, November 12 2015



Fraunhofer-Gesellschaft

- 67 institutes and independent research units
- More than 23,000 staff
- €2 billion annual research budget totaling
 - Roughly two thirds of this sum is generated through contract research on behalf of industry and publicly funded research projects
 - Roughly one third is contributed by the German federal and *Länder* governments in the form of base funding
- International cooperation

Joseph von Fraunhofer
Scientist, Inventor, Entrepreneur
(1787 – 1826)

Fraunhofer IML

- Founded in 1981
- More than 200 scientists and 250 student assistants
- Turnover of 23.6 million € (2013)
- There of 40% from industry, trade and services
- Branches and project centers in Frankfurt am Main, Hamburg, Prien/Chiemsee
- Cooperation with HSG St. Gallen (Switzerland), Georgia Tech (USA), Lisbon (Portugal), Shanghai (China), Rio de Janeiro (Brazil)

3 Sections of Fraunhofer IML



SECTION MATERIAL FLOW SYSTEMS

- Information Logistics and Assistance Systems
- Intralogistics and IT Planning
- Automation and Embedded Systems
- Machines and Facilities, Packaging and Trade Logistics
- AutoID- and RFID-Systems Software Engineering

SECTION ENTERPRISE LOGISTICS

- Enterprise Planning, Supply Chain Engineering
- Production Logistics
- Plant and Service Management
- International Enterprise Development
- Procurement and Finance in Supply Chain Management

SECTION LOGISTICS, TRAFFIC, ENVIRONMENT

- Environment and Resource Logistics
- Traffic Logistics
- Health Care Logistics
- Project Center Aviation Logistics
- Project Center Traffic
- Mobility and Environment
- Center for Maritime Logistics and Services



10 good reasons to choose North Rhine-Westphalia



Germany's investment location No. 1



One of the largest European markets



Gateway to Europe



World-class research and development



Highly qualified workforce



The world's biggest trade fair location



Competitive tax system



The top performer state



Excellent properties and real estate



One of Europe's richest leisure and cultural landscapes



NRW.INVEST GmbH

On the market for over 50 years



- 100-percent subsidiary of the state of North Rhine-Westphalia
- Head office in Düsseldorf, two subsidiaries, nine foreign branches
- 37 employees in Düsseldorf and 35 worldwide
- Fields of expertise:
 - International location marketing
 - Direct acquisition in the target countries
 - Settlement consulting
 - Account management of foreign firms
 - Service for economic development in North Rhine-Westphalia

Digitalization · Internet of Things · Everything autonomous!



People
plan, manage, network...



Truck
drives autonomous.



CONTAINER
organize their load in the logistical
network.



Storage
replenishes autonomous.



Bins
tell you what to take out.



Shuttles
organize themselves in swarms.

■ Innovation Cluster

- Project duration of 4 years (2010 – 2013)
- 9 Mio. EUR total volume
- Gradual development

■ Logistics-Mall.com

- Strong increase of potential buyers
- Increasing number of products
- Already operationally in use



Ministerium für Innovation,
Wissenschaft und Forschung
des Landes Nordrhein-Westfalen



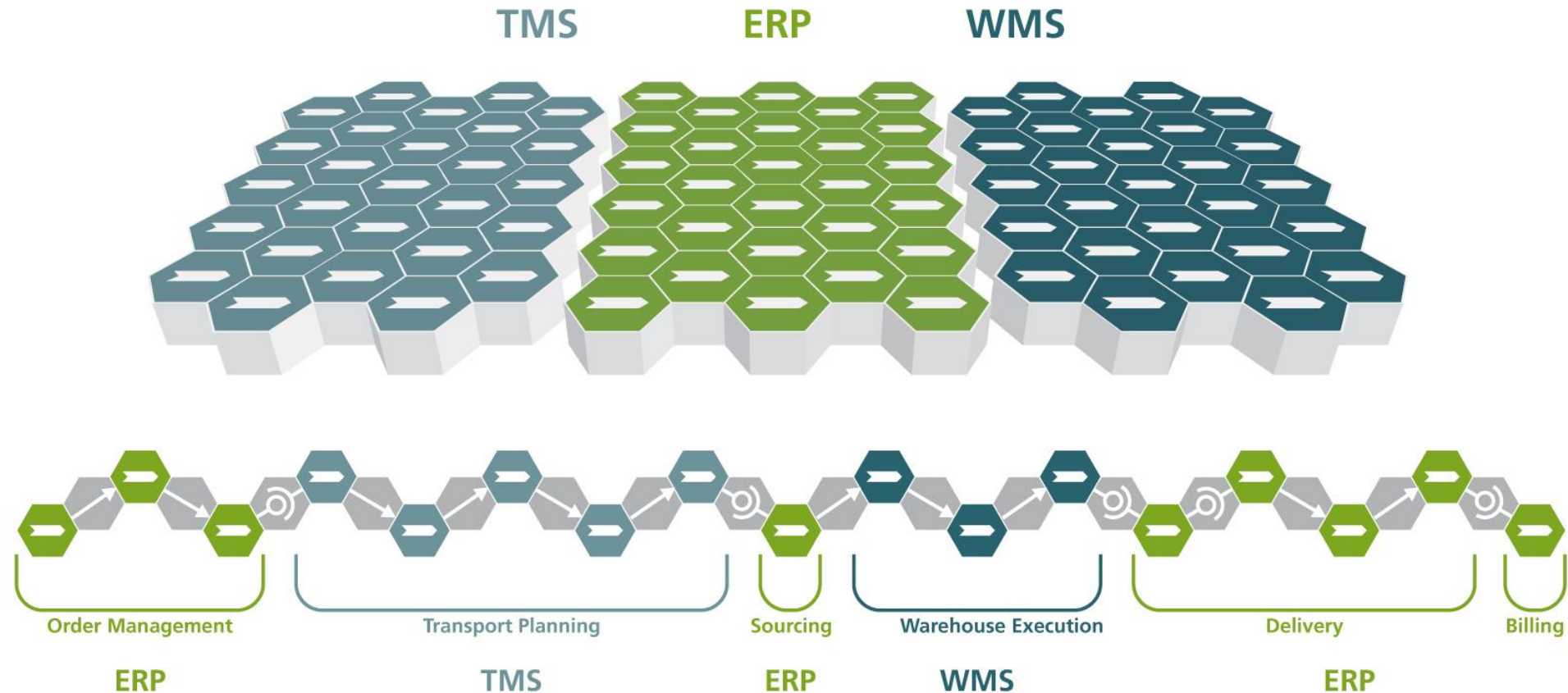
Goals of the Fraunhofer Innovation Cluster



- Development and Programming
 - (standardized) cloud infrastructure for logistics
- Design
 - Development of tools for the design of cloud-based logistics software
- Interactive Online Marketplace
 - Development of a platform for the cloud-marketing
- Prototypical operation of the Cloud
 - Providing logistics software *and* services in the cloud (e.g. for SMEs)
- Establishment
 - of the Cloud Logistics Mall and innovative Cloud-Computing-Products in North Rhine-Westphalia

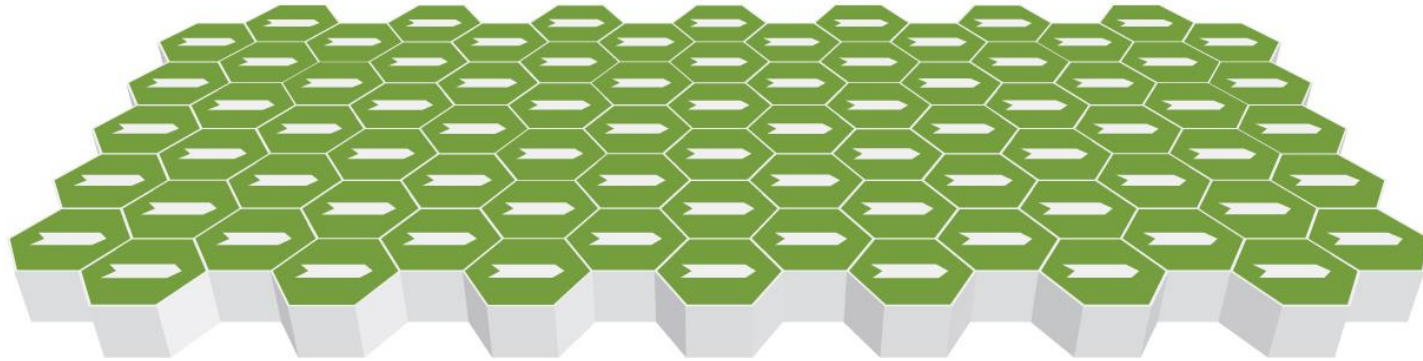


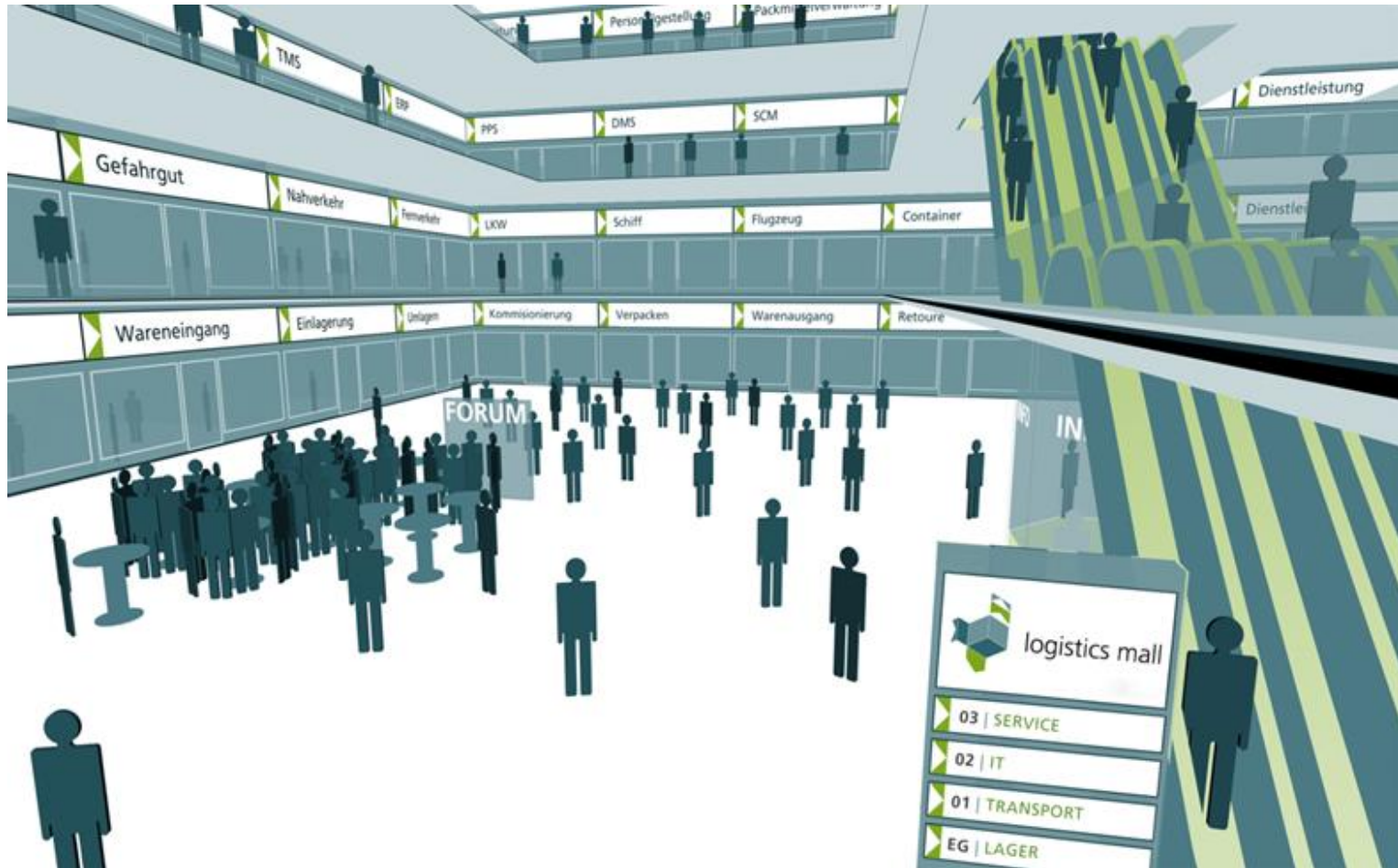
IT-Landscape: TODAY





IT-Landscape: TOMORROW







The screenshot shows the Logistics Mall website interface. At the top, there is a navigation bar with the logo and the text "logistics mall". Below this, a banner features a 3D architectural rendering of a modern logistics facility with labels for ERP, PPS, DMS, and SCM. A "Dienstle" button is visible on the right. A secondary navigation bar contains "EINKAUFEN" and "ANBIETEN" buttons. The main content area is divided into a left sidebar and a central grid. The sidebar, titled "PRODUKTE", lists categories under "Dienstleistung" (Intralogistik, E-Commerce & Fulfillment, Supply Chain Execution, Distributionslogistik, Handelslogistik, Produktionslogistik) and "Process as Service", "Software as Service", and "Infrastructure as Service". The central grid, titled "Produkte", displays six categories with corresponding images: Intralogistik, E-Commerce & Fulfillment, Supply Chain Execution, Distributionslogistik, Handelslogistik, and Produktionslogistik. A "Sortieren nach" dropdown menu is located above the grid. On the right, a "NEWS" section lists recent updates with dates and brief descriptions. A "Nächste" button is at the bottom right of the news section.

logistics mall
Willkommen! Einloggen oder registrieren.

Impressum | Kontakt | Über uns | Suche

EINKAUFEN ANBIETEN

PRODUKTE

- Dienstleistung**
 - Intralogistik
 - E-Commerce & Fulfillment
 - Supply Chain Execution
 - Distributionslogistik
 - Handelslogistik
 - Produktionslogistik
- Process as Service
- Software as Service
- Infrastructure as Service

ANBIETER

Produkte

Sortieren nach

- Intralogistik**
- E-Commerce & Fulfillment**
- Supply Chain Execution**
- Distributionslogistik**
- Handelslogistik**
- Produktionslogistik**

NEWS

- 04.06.12 IT-Logistik: Wolkenflug mit klarem Kompass
- 21.05.12 Logata und WM-Logistik nehmen gemeinsam an einem Symposium auf der "transferlog" in Hambur
- 16.05.12 Velpe und Duisburg arbeiten produktiv mit der Logistics Mall
- 05.05.12 Logistics Mall bekommt Auszeichnung "Industriepreis 2012 - Best of"
- 12.04.12 Cloud-Geschäftsprozesse – Telekom ist dabei

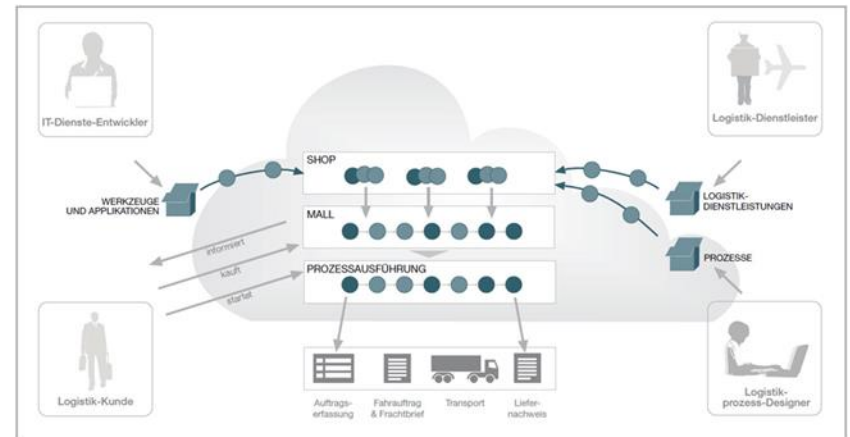
Nächste



- Background:
 - The German Company WM-Logistik GmbH & Co. KG has established a cloud-based logistics center
- Targets:
 - Elimination of IT-Apportionment
 - Standardization of IT-Processes
 - Employees use only one browser for all operational processes (office, email, inventory management)
- Challenges:
 - Usage in the productive process (printers, mobile devices)
 - Implementation parallel to Customer-Launch
 - Between 23 and 68 employees per shift

Logistics Mall in practice

- Experience:
 - Integration into the Logistics Mall went unnoticed
 - The necessary scope was provided
- Result:
 - WM-Logistik GmbH & Co. KG now uses a system that covers all standard processes and can be operated entirely via the Internet
 - The IT costs have been reduced by 50%
- Evaluation:
 - Three other locations will be migrated to the cloud





The market is ready



- Market demands can not be met by existing technologies
- Economic potential "Internet of Services"
- Acceptance of potential users of the Logistics Mall > 60%
- Over 50% of users and providers are early adopters
- About 40% of using companies have not invested in IT for over 2 years
- Providers expect new customer groups and cost savings
- The concerns are in the area of data security



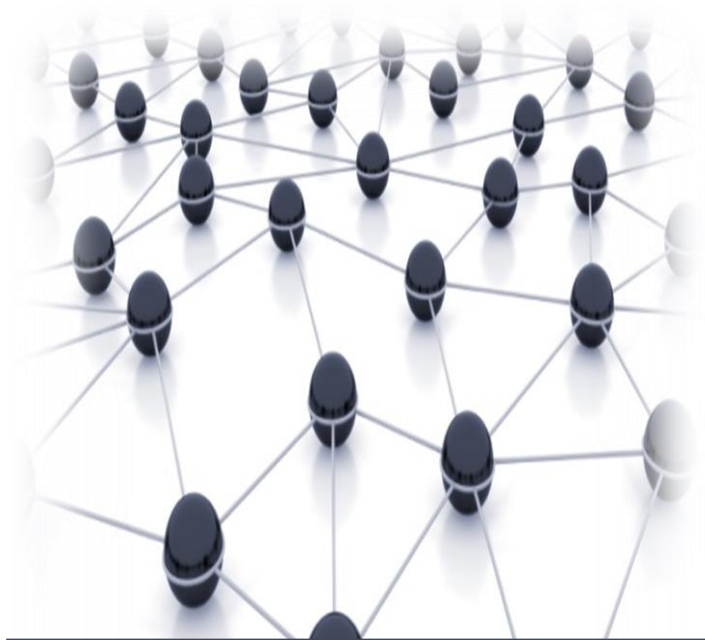
Summary



- Logistics users are demanding **individualized services**
- The Logistics Mall offers professional users the opportunity
 - to **model**
 - to **order** and
 - to **operate** specialized processes
- The **Logistics Process Designer** as a central element of process modeling allows the modeling of business processes using **Apps with different granularity**



Security of „Internet of Things“–Data The Industrial Data Space IDS



**DECENTRALIZED,
FEDERAL, INTELLIGENT,
SAFE,
TRUSTWORTHY
INDUSTRIAL DATA SPACE**





Goals and Strengths of IDS

Linkage



Safety



Business



Standards



Software



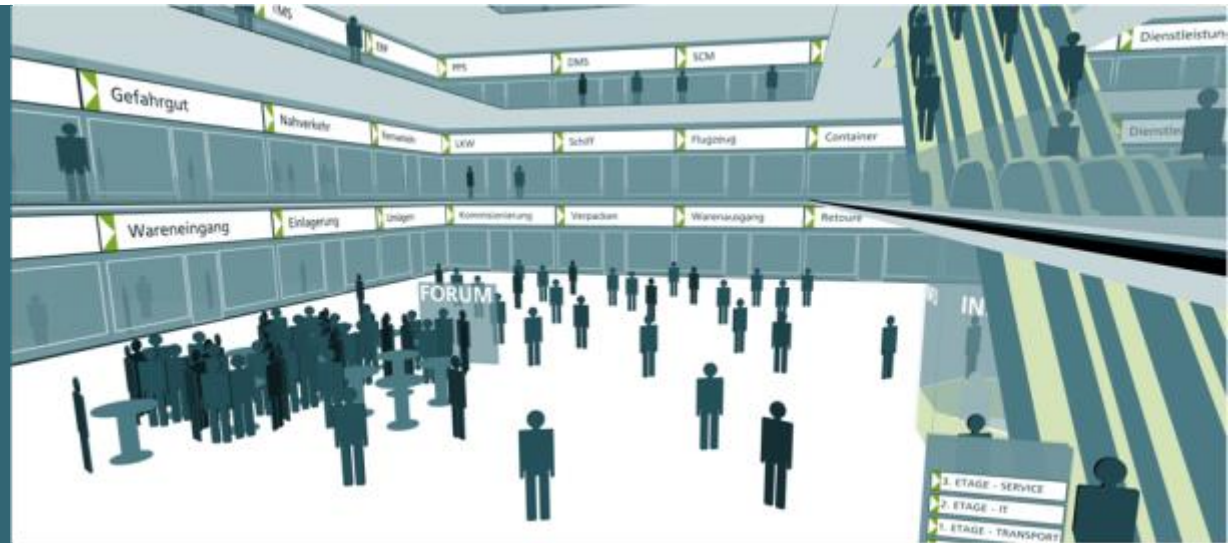
**Infrastructur
e**



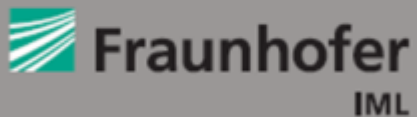


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Thank You!



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