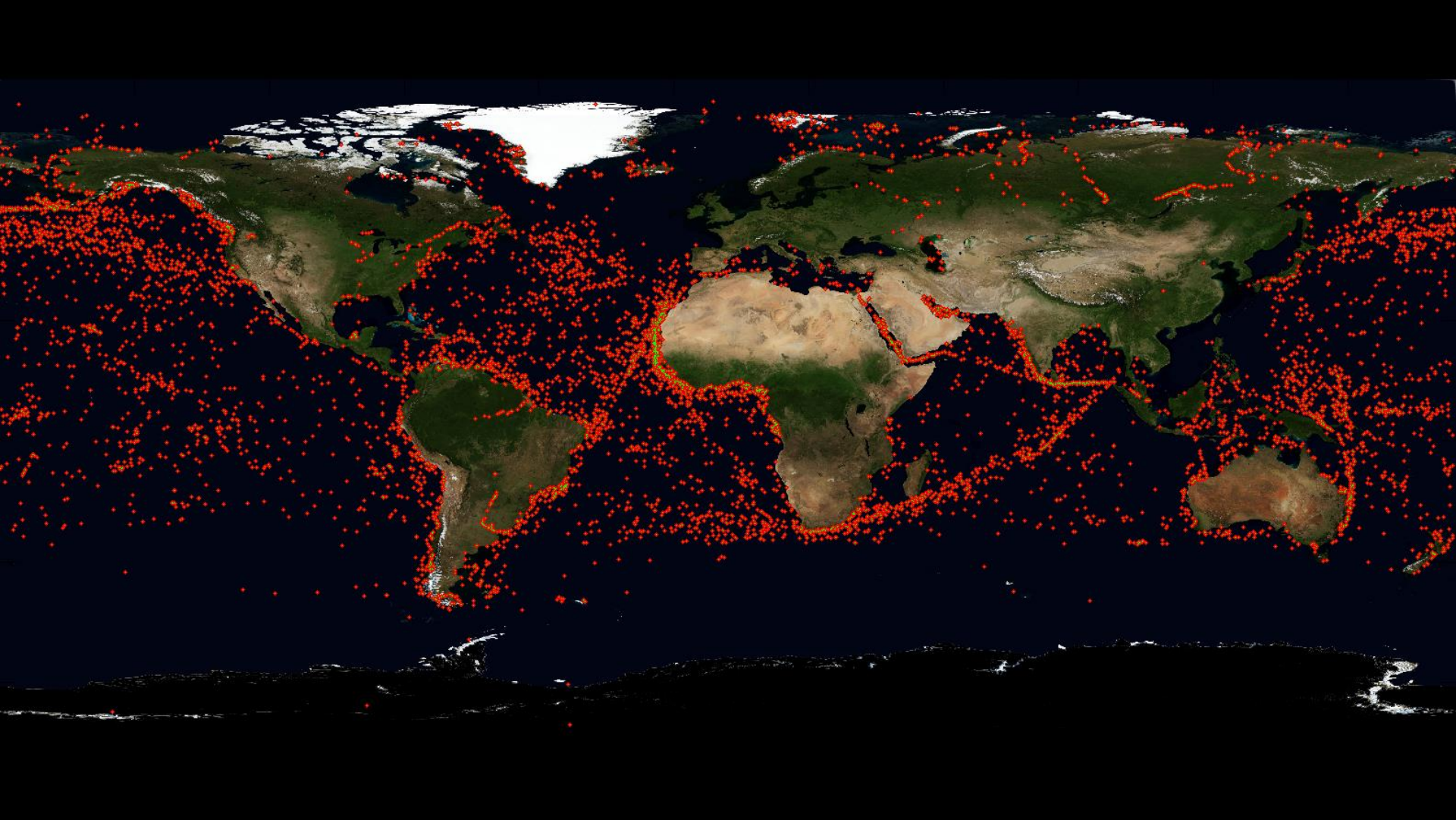


A World in Motion – How Supply Chain Managers Snap out of Crisis

Prof. Dr. Thomas Wimmer,
ARILOG International Conference
Logistics & Supply Chain

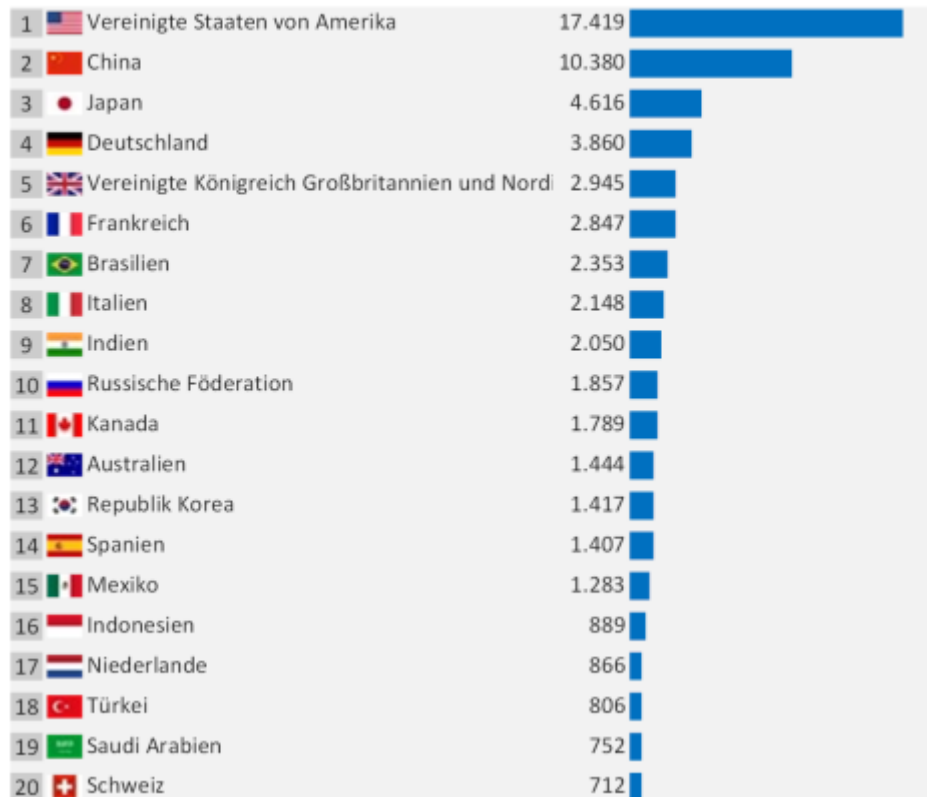


A World in Motion?



RANKING BIP 2014

GDP, current prices *U.S. dollars (Billions)*



GDP based on PPP valuation *Current international dollar (Billions)*



Source: IMF (2015)

Economic Growth of PR China is Decreasing



Bild: Creative Commons von Man-ucommons, Lizenz: CC BY 2.0

Economical Power of the U.S.A. is Growing up



Bild: Creative Commons von Man-ucommons, Lizenz: CC BY 2.0

Economical Power of Romania is Slightly but Constantly Growing

2013 + 3,5%

2014 + 1,9%

2015 + 2,2 ... 2,5%



von Marco Verch (Post-Streik in Köln vor Ver.di) CC BY 2.0



„LE Eithne Operation Triton“ von Irish Defence Forces - Lizenziert unter CC BY 2.0

Changes in Technology

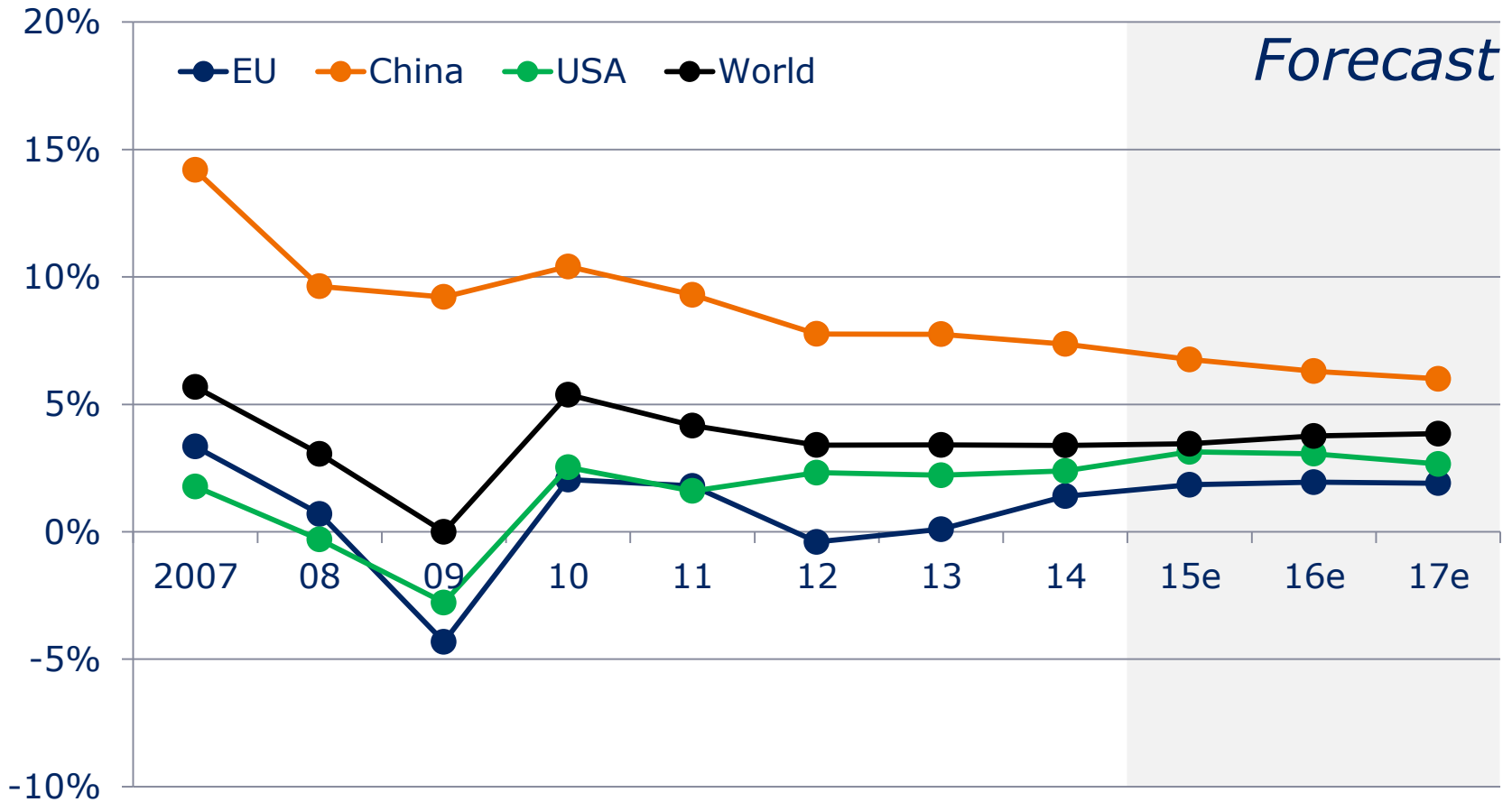




<http://www.finanzen.net/index/Dax>

Economic Growth Continues

Real growth year on year in %

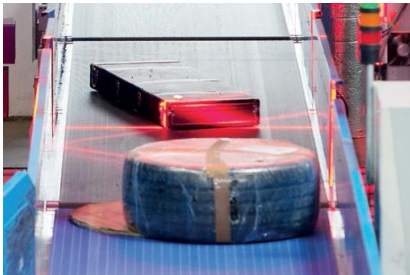


Source: IMF (2015), World Economic Outlook.





- Beyond the “**Smart Factory**”, the processes of production and logistics are interconnected across company borders.
- **Material flows** can be optimized, potential mistakes avoided in advance. Changes in customer requests are recognized at an early stage. Market changes can be handled effectively.
- **Cyber Physical Systems** (CPS) are being created. Production system components like tooling machines are mutually interlinked and connected to Enterprise Resource Planning Systems. So the “Smart Factory” becomes reality.
- **Minimum quantities** of parts can be produced in the cheap cost structures of big lot sizes.



- **Intelligent Units:** Machines are self organizing their own production processes, service robots collaborate with human beings in assembly lines. Driverless transport vehicles autonomously fulfill logistics orders.
- The Industry 4.0 philosophy determines the **complete lifecycle** of a product: research & development, production, testing, use, MRO (maintenance, repair, overhaul), recycling.
- Former “passive” tools, machines or transport devices are equipped with digital “**Eyes & Ears**” (sensors) as well as “**Hands & Feet**” (actuators) and are controlled via IT systems
- centralized or de-centralized.

How Industry 4.0 Influences the Economy



- **Industrial processes** using digital technologies become more "intelligent".
- **New business models** are created: software expertise and know-how concerning digital technologies determine the business success of companies.
- **Intelligent coverage and analysis of data** enable companies to offer products that are precision-tailored to customer preferences.
- **New product ideas and developments** result from the information collected by a smart product during its life cycle.



- **High quality results**, not deserted plants without any human presence
- **Process oriented** and dedicated work
- **Procedures** are easily coordinated – improved communication and autonomous and quick decision making.
- Due to the high level processes, **interdisciplinary expertise** is more than welcome.
- **Vocational and educational training will be integrated core activities of companies who want to ensure that their employees are highly motivated.**

Presence of SCM/Logistics

4th Party Logistics Provider (4PL)

Forwarder Logistics Service Prov. 3rd Party Log. Provider (3PL) Contract Logistics Prov. Express, Parcel, Courier



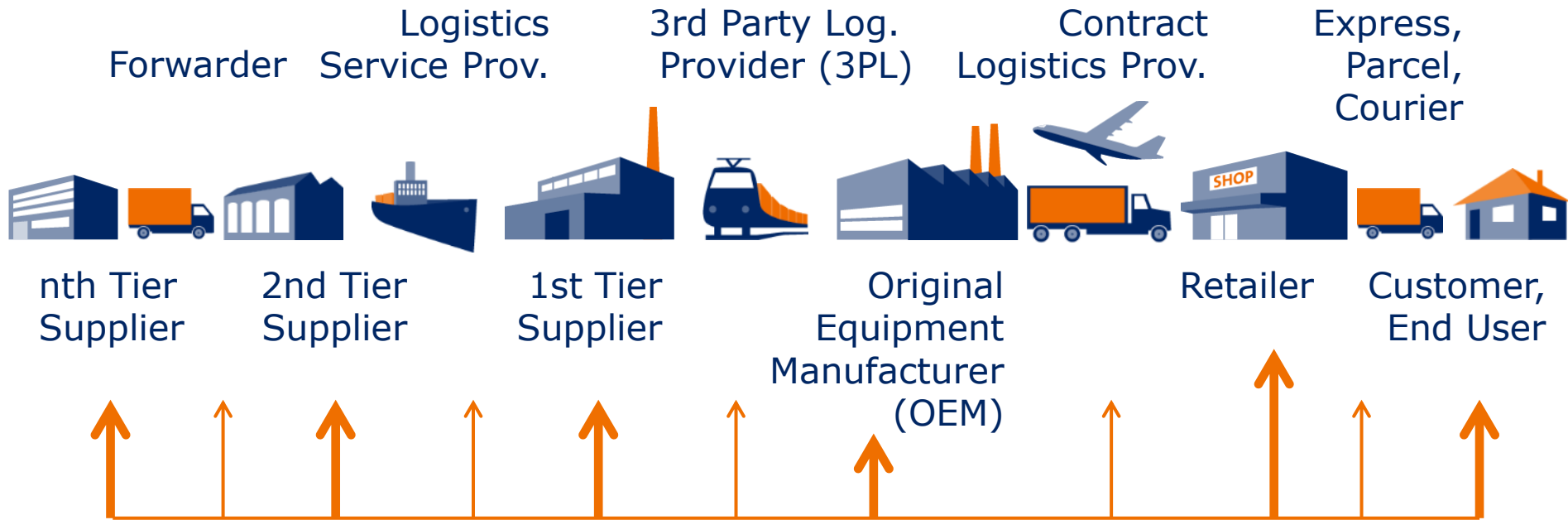
nth Tier Supplier 2nd Tier Supplier 1st Tier Supplier Original Equipment Manufacturer (OEM) Retailer Customer, End User



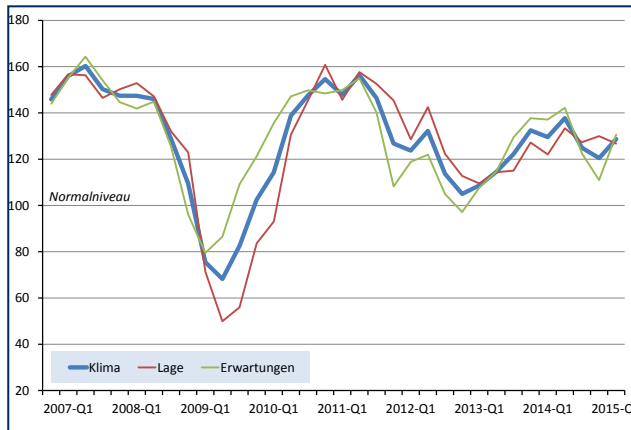
Supply Chain Management / Logistics

Presence of SCM/Logistics

4th Party Logistics Provider (4PL)

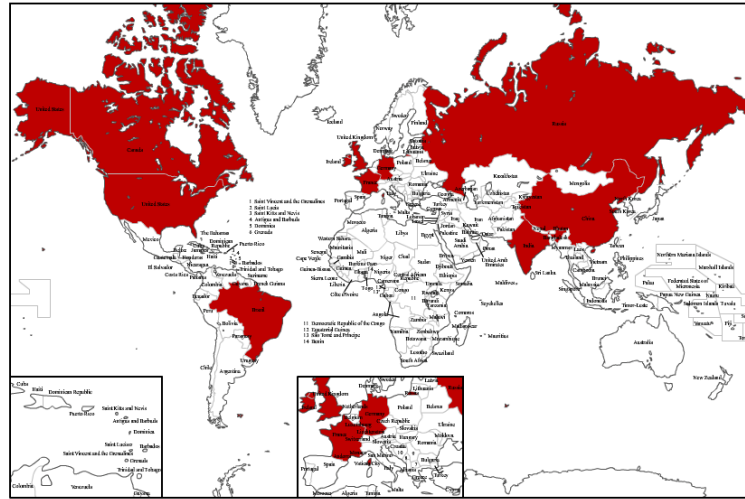


Supply Chain Management / Logistics



- **Volatility** and **interdependencies** in the economy / within supply chains, **floating exchange rates**, government regulations
- Demographic **change**, generational handover: more short term focus
- **Disasters** in nature and global politics
- Increasing **complexity** through customer expectations, **cost pressure** due to **transparency** and global competition
- Rapidly developing **technology**, **“digitization”** of business processes
- Increasing number of **networks** and alliances
- Inadequate **infrastructure** and **lack of qualified personal**

Participants of SCM Survey ...



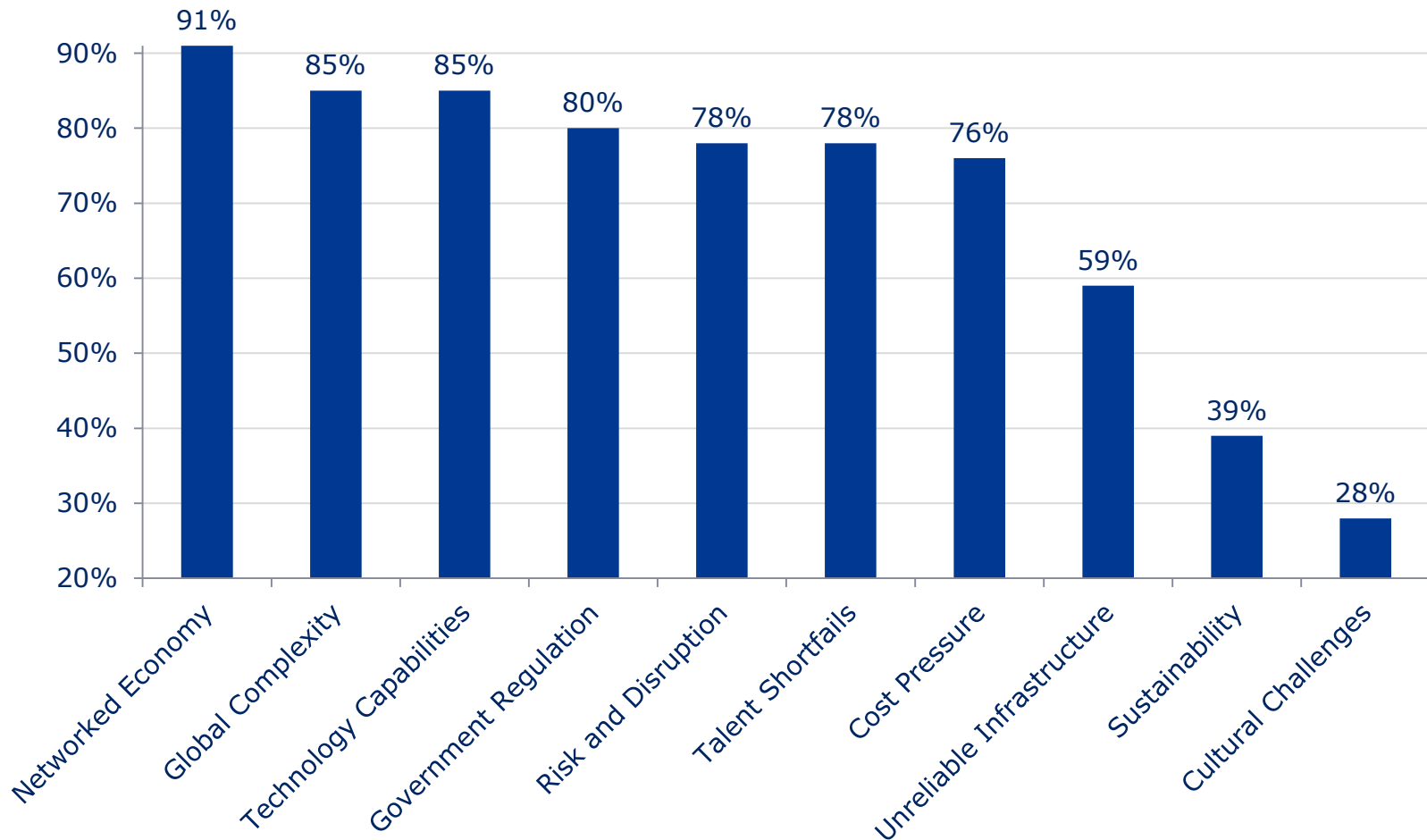
Fuelling a trail - blazing path of excellence



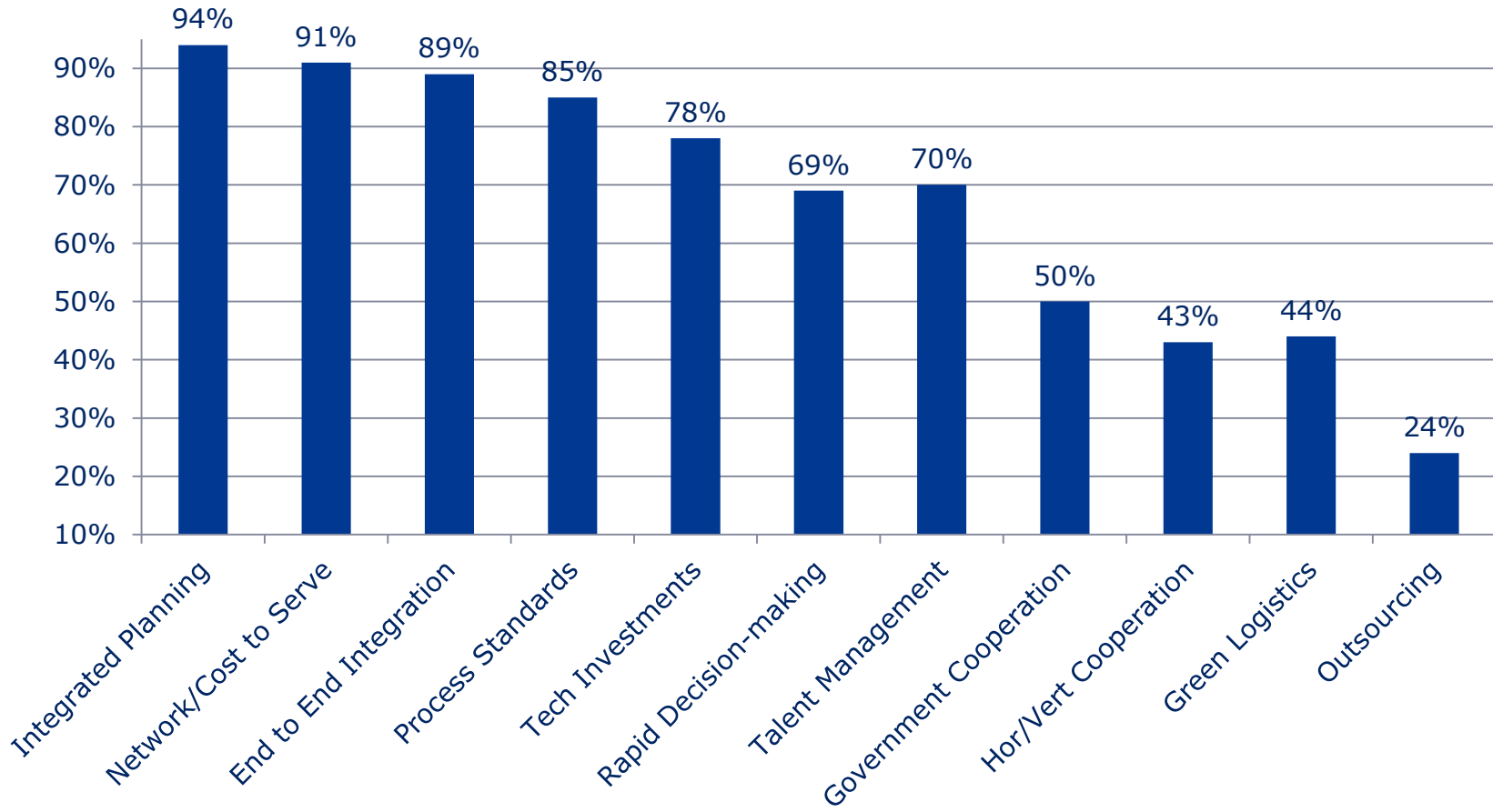
DISCOVER INSOURCING SCM



Key Logistics Trends

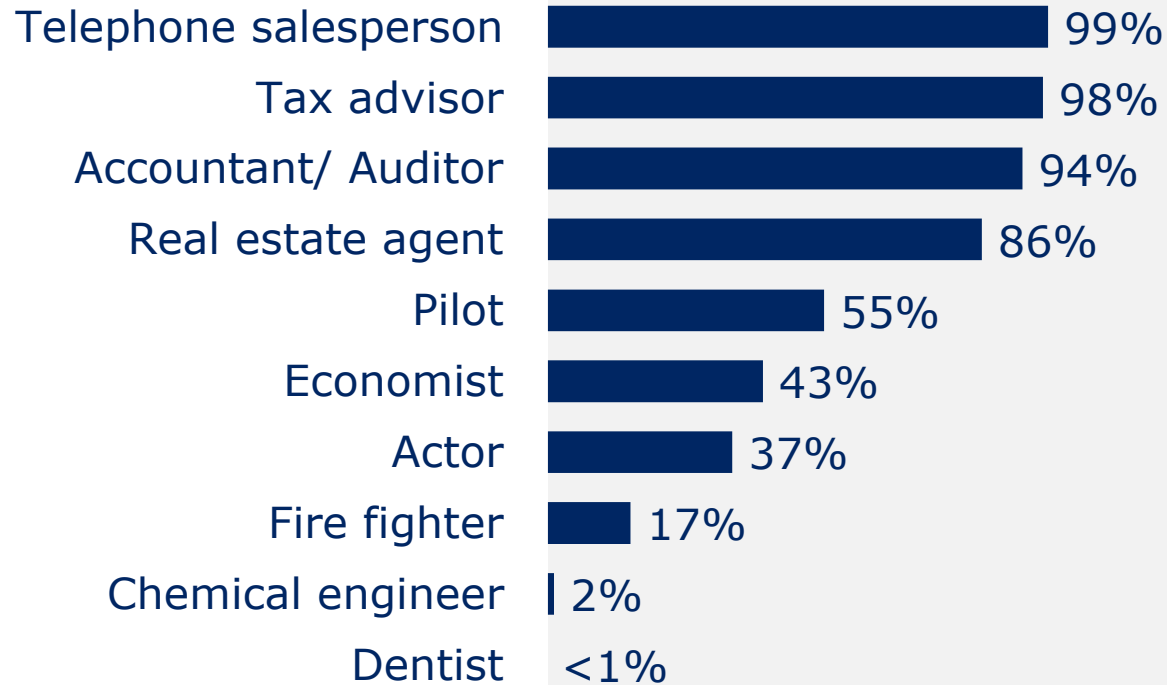


Key Logistics Strategies



Probability for dedicated jobs to be replaced by robots or computers within the next 20 years (selection)

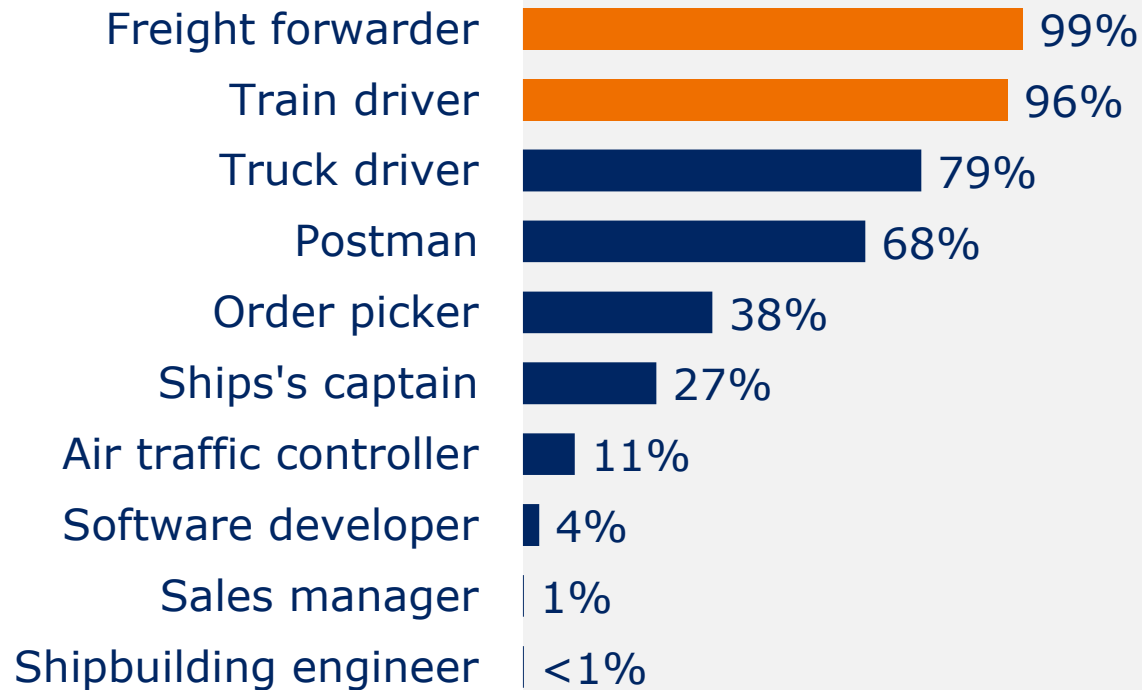
GENERALLY



Source: Frey/Osborne (2013)

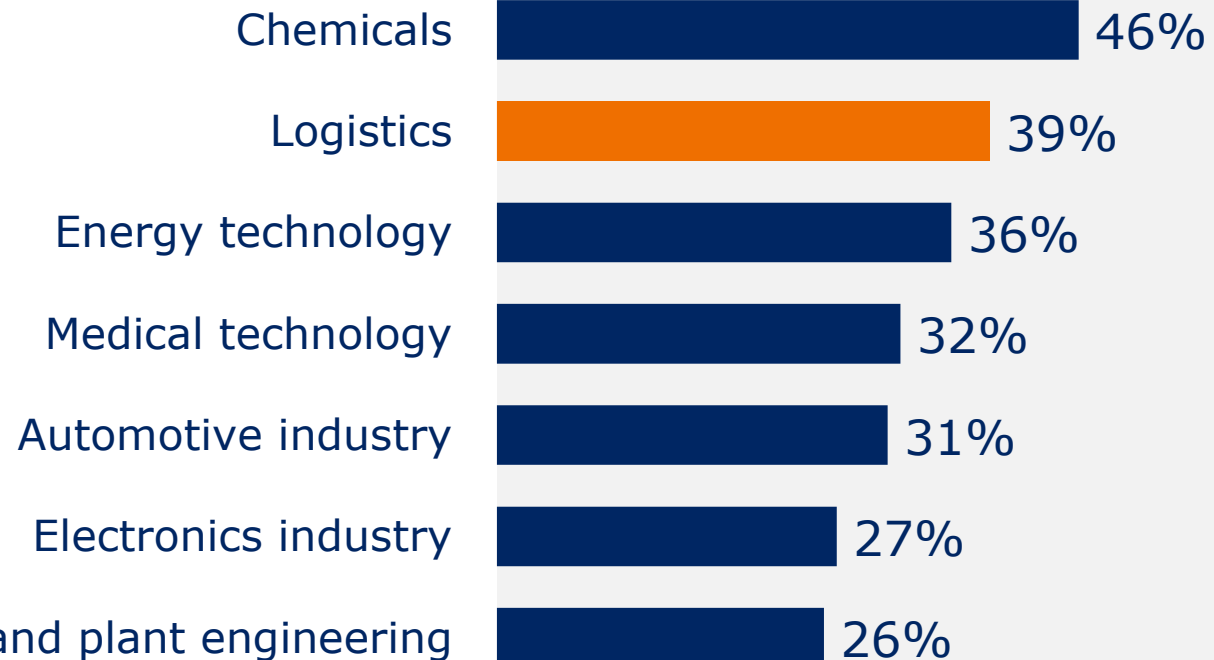
Probability for dedicated jobs to be replaced by robots or computers within the next 20 years (selection)

LOGISTICS



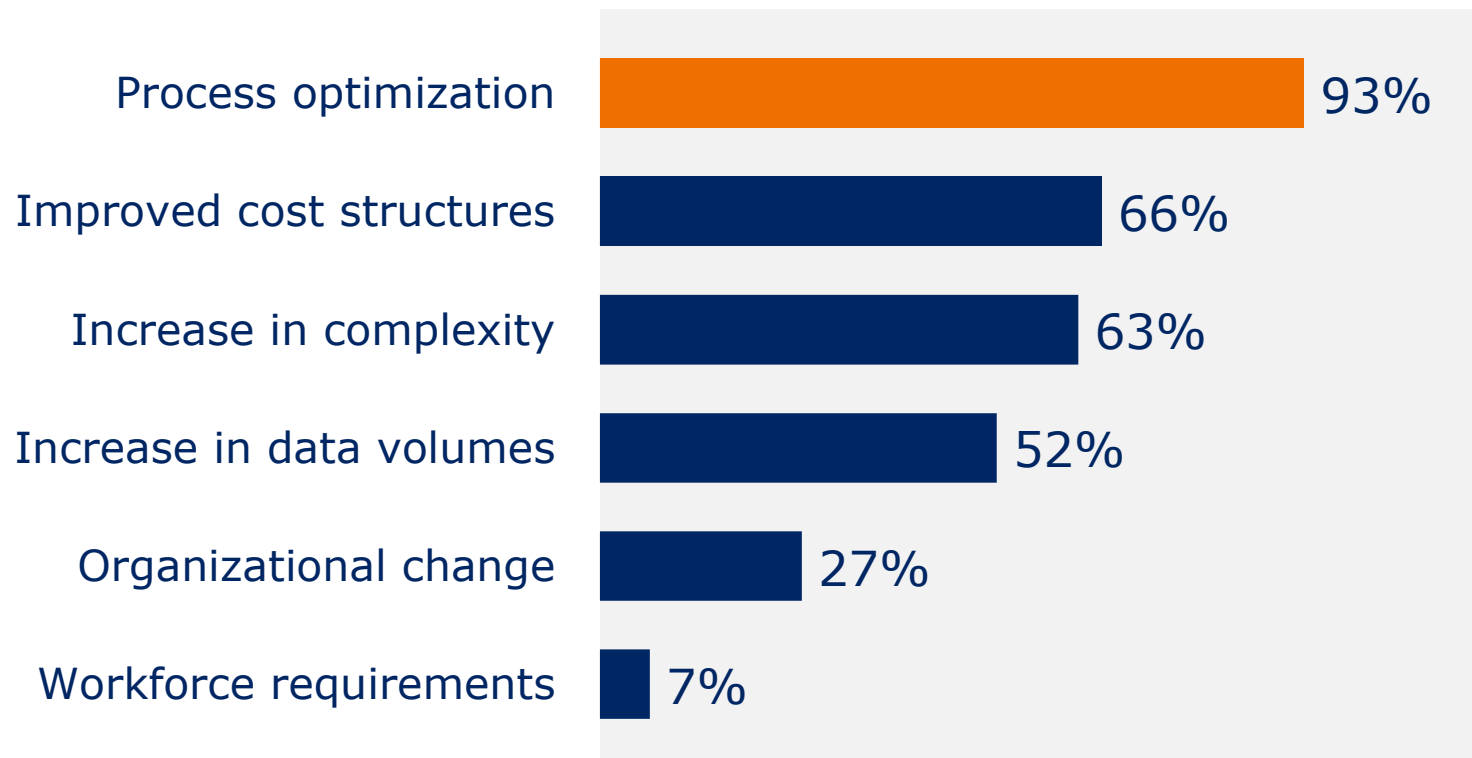
Source: Frey/Osborne (2013)

How top managers rate the preparedness of their business field for Industry 4.0



Source: Roland Berger/BDI (2015)

Which fields are driving Industry 4.0 within companies?



Source: BVL (2015), Panel for the Logistics Indicator

MAERSK



Spare parts for 3D printers during maritime transport



BVL is ...

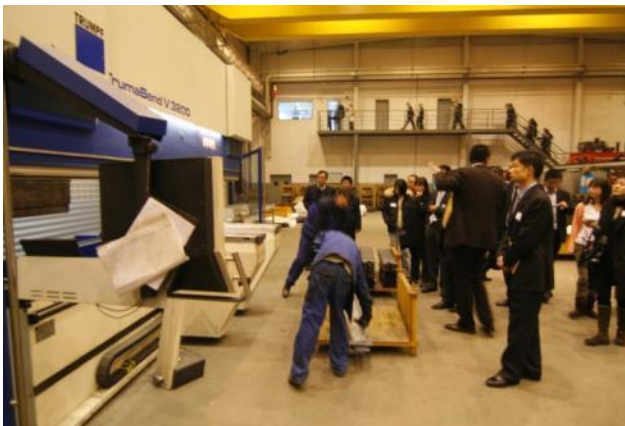
- ... an **open network** of people who are committed to efficient and effective cooperation in a globally active sector of industry.
- ... a **voluntary association** of management executives and decision-makers from the worlds of industry, science and politics.
- ... an **active community** whose members look beyond their own specific field of activity to both reap and generate specialised and interpersonal benefits.





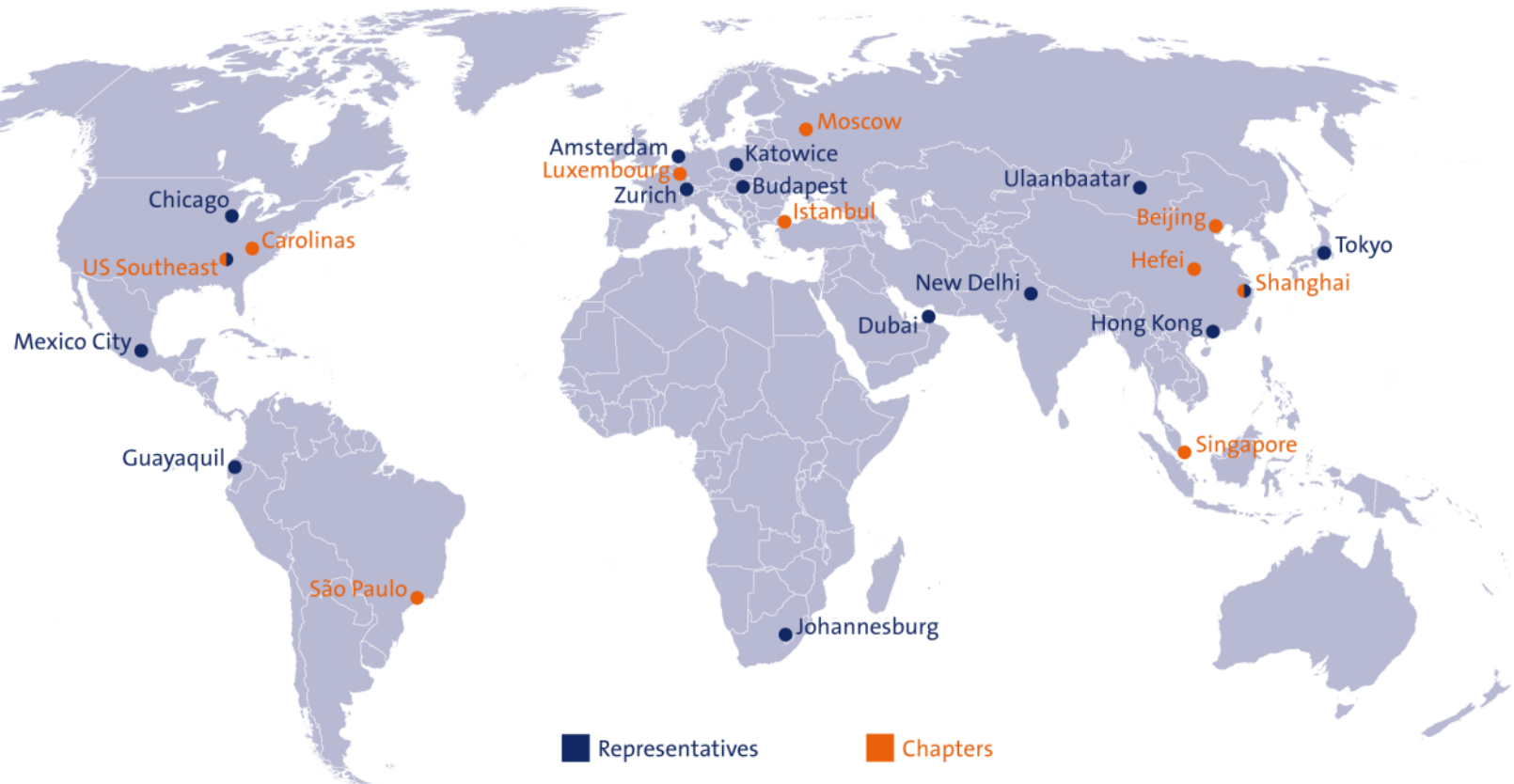
- **Non-profit organisation**, objective, independent, does not represent special interests
- More than **10,000 members** from the top echelons of industry, trade, services and science
- **More than 30 chapters** worldwide, about 300 free events every year
- **250 honorary officials**
- Exchange of **knowledge** and **experience**
- Communicating the **importance of supply chain management** and promoting its application and development





- **Cross-sector** encounters, **transfer of know-how** and experience
 - Information, ideas, stimuli
 - Inspiration for own day-to-day work
- **Hands-on** demonstration of logistics concepts
 - > Presentations, company tours, videos
- Interaction with logistics and SCM experts and decision makers from the fields of industry, trade, services, science and politics
- In multiple countries, organized on a voluntary basis, participation free of charge

Worldwide Contacts



Meet the Experts

