Crowd sourcing & Uberisation: Does the Logistics Industry Have a Future?

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About Ti

Ti is a market research company specialising in global logistics and the supply chain. The company was established in 2002 to fill a gap in the market for high quality, affordable market research.

What sets Ti apart?

- Ti is a leading provider of market research solutions across the global logistics industry
- Advisors to the World Economic Forum, World Bank, UN and European Commission
- Global research centre based in UK
- Pillars of growth: Research reports, Consulting, web-based Knowledge Portal, M&A, Conferences/Training
- On-going and comprehensive programmes of primary research
- Ti's Global Associate Network providers multi-country, multi-disciplinary and multi-lingual extension to Ti's capabilities

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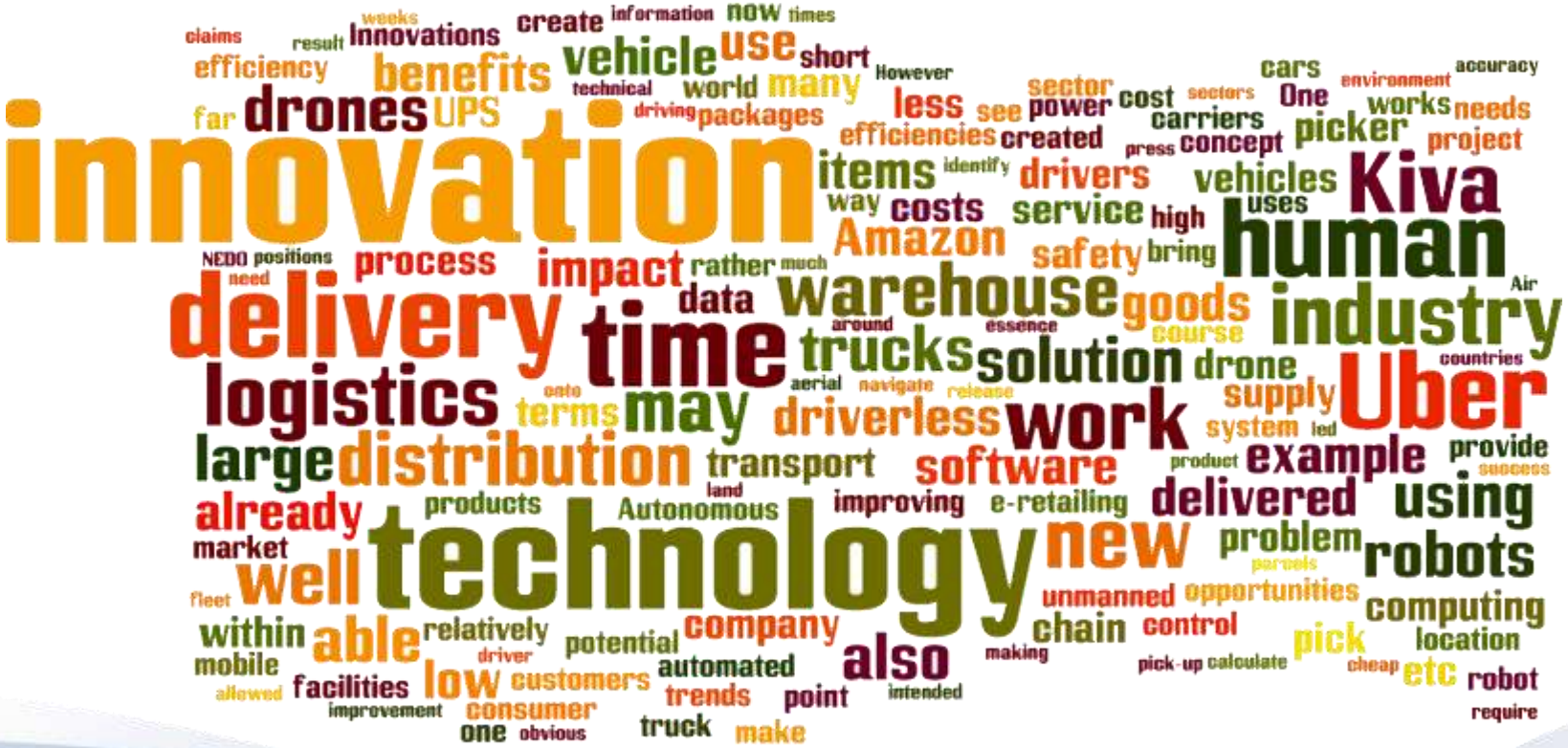

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The context

The logistics and supply chain industry is at the nexus of a multitude of demand-side trends and disruptive technology innovations which will create a transformation in the way products are shipped, stored and delivered.

Which technologies are likely to have the biggest effect on supply chain strategy?

Importance

- Smart Technologies
- Big Data
- Data Analytics
- Internet of Things
- Automation
- 3D Printing
- Cloud Computing
- Advanced Robotics

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The four ‘Ds’ of Supply Chain Disruption

DEMOCRATIZATION	Access to private individuals Use of public transport and cars
DEMONETIZATION	Better access to supplier pool More supply means lower rates Fewer legacy systems Better efficiencies
DISRUPTION	Inefficient business models Low utilization rates Poor market info Vested interests - why change?
DIGITIZATION	Shipment meta-data Big Data Where, when, how many?

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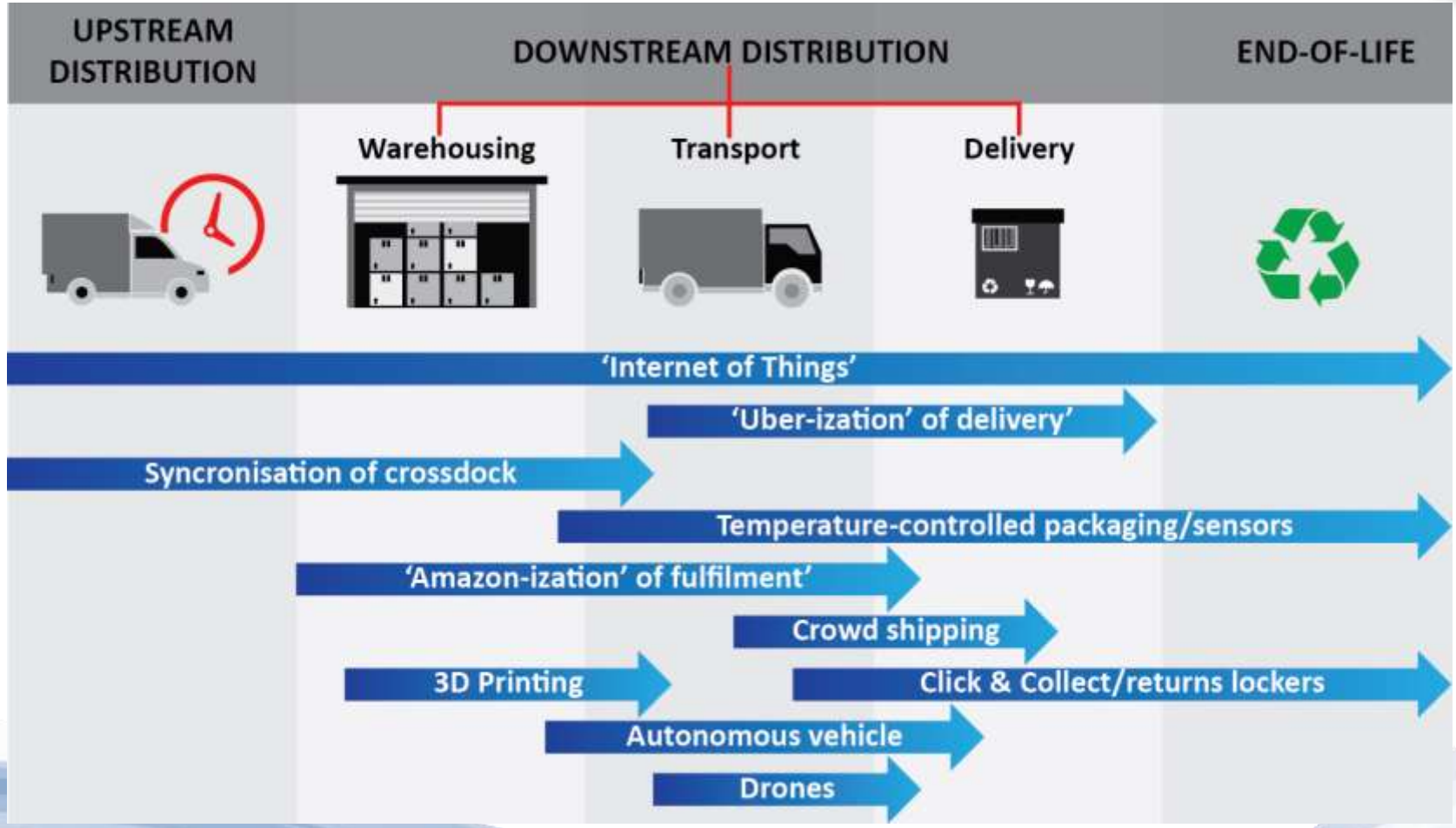
Supply Chain Disruption



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Internet of Things

The ‘Internet of Things’ encompasses sensors, technology and networking to allow buildings, infrastructures, devices and additional ‘things’ to share information *without requiring human-to-human or human-to-computer interaction*.

IoT will enable:

- Monitor the status of assets, parcels, and people in real time.
- Measure how assets are performing (and what they will do next).
- Automate business processes to eliminate manual interventions, improve quality, predictability and lower costs.
- Optimize how people, systems, and assets work together, and coordinate their activities.
- Apply analytics to the entire value chain to identify wider improvement opportunities and best practices.

What benefits will the Internet of Things and Big Data have for the logistics industry?

Optimise how people, systems, and assets work together

Better informed decision making

Better coordinated activities/operations towards operational and strategic goals

Predictive modelling of supply chain events including potential disruptions

Increased efficiencies

Increased visibility for shipment monitoring

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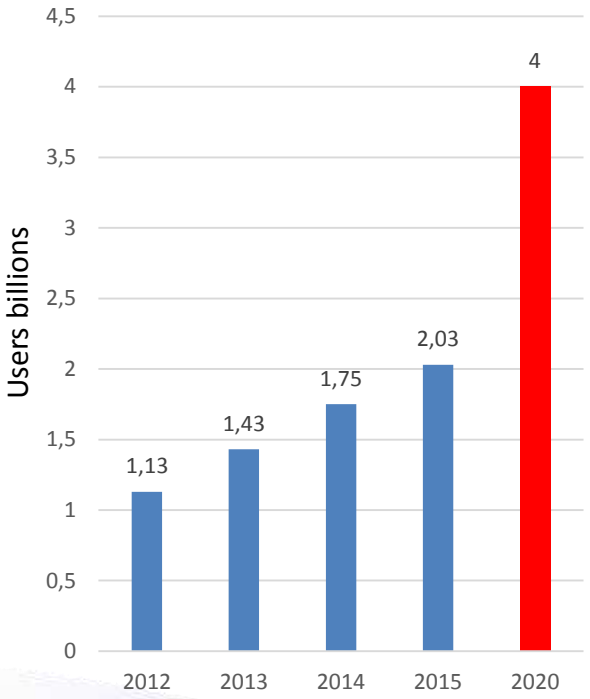
The power of personal computing

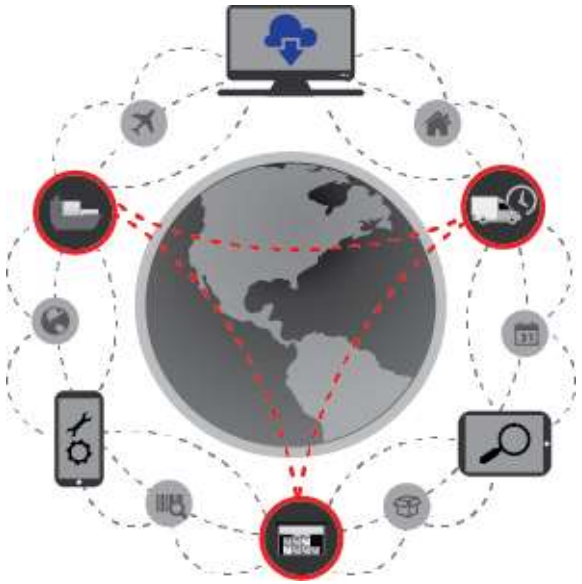
The distribution of computing power and hardware throughout the population



The Smart Phone Revolution

- Scanning
- Cameras
- GPS/SatNav
- Sofrtware Applications
- Internet
- Communication
  - Voice
  - Text
  - e-mail

Sharing Economy



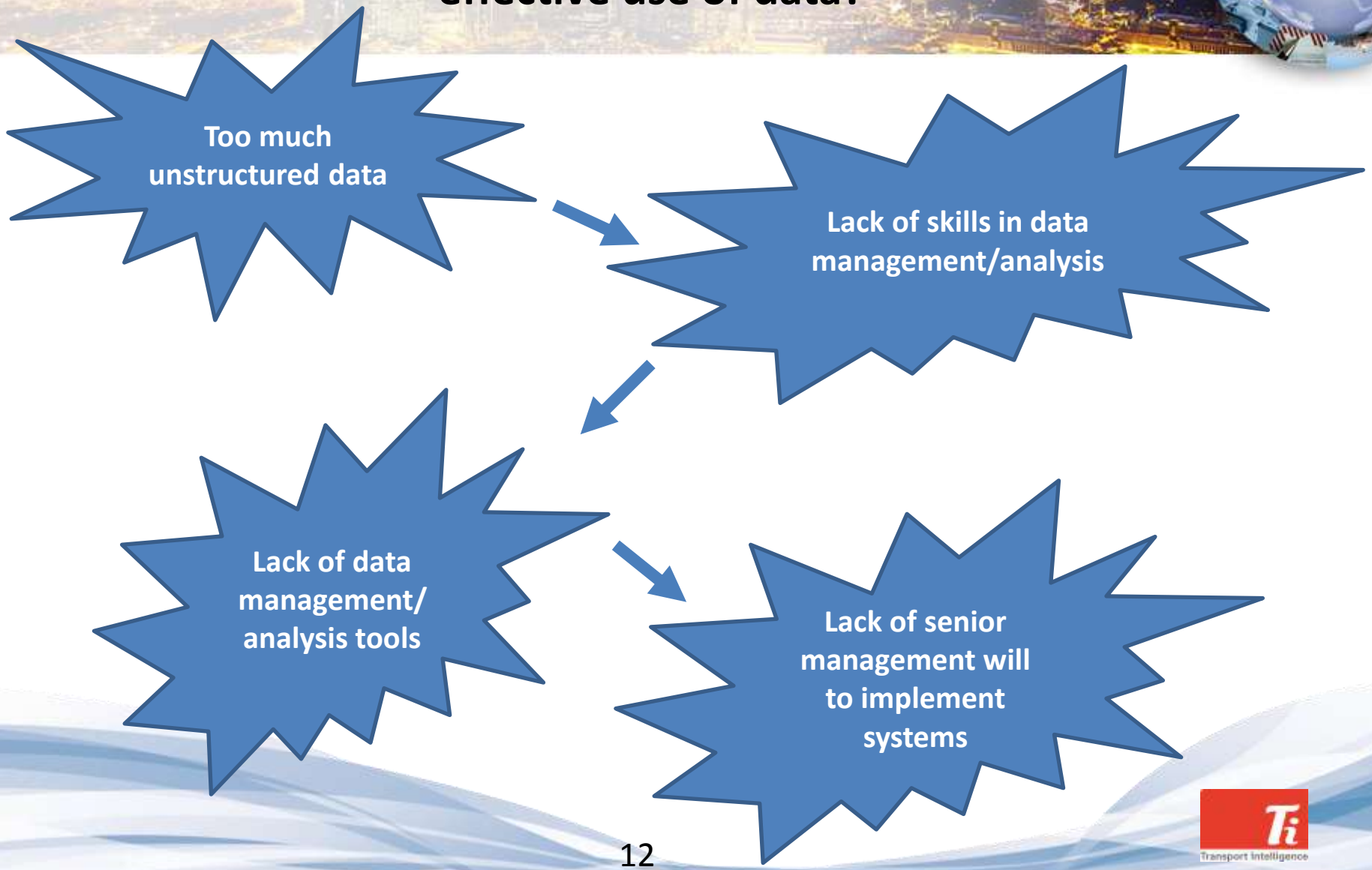
Network connected mobile devices are very powerful communication and sensor platforms.

They are the means to engage every party in the chain. All of the actors can be combined into a virtual partnership tasked with delivering the service to the customer.

They have been utilized by disruptors such as Uber to challenge regulated sectors such as taxis – but now also transportation.

Transportation services are highly inefficient. Thanks to the advances in mobile technologies, independent contractors can now be linked more efficiently which in the case of Uber, could result in disintermediation of legacy carriers.

What is limiting companies' ability to make effective use of data?



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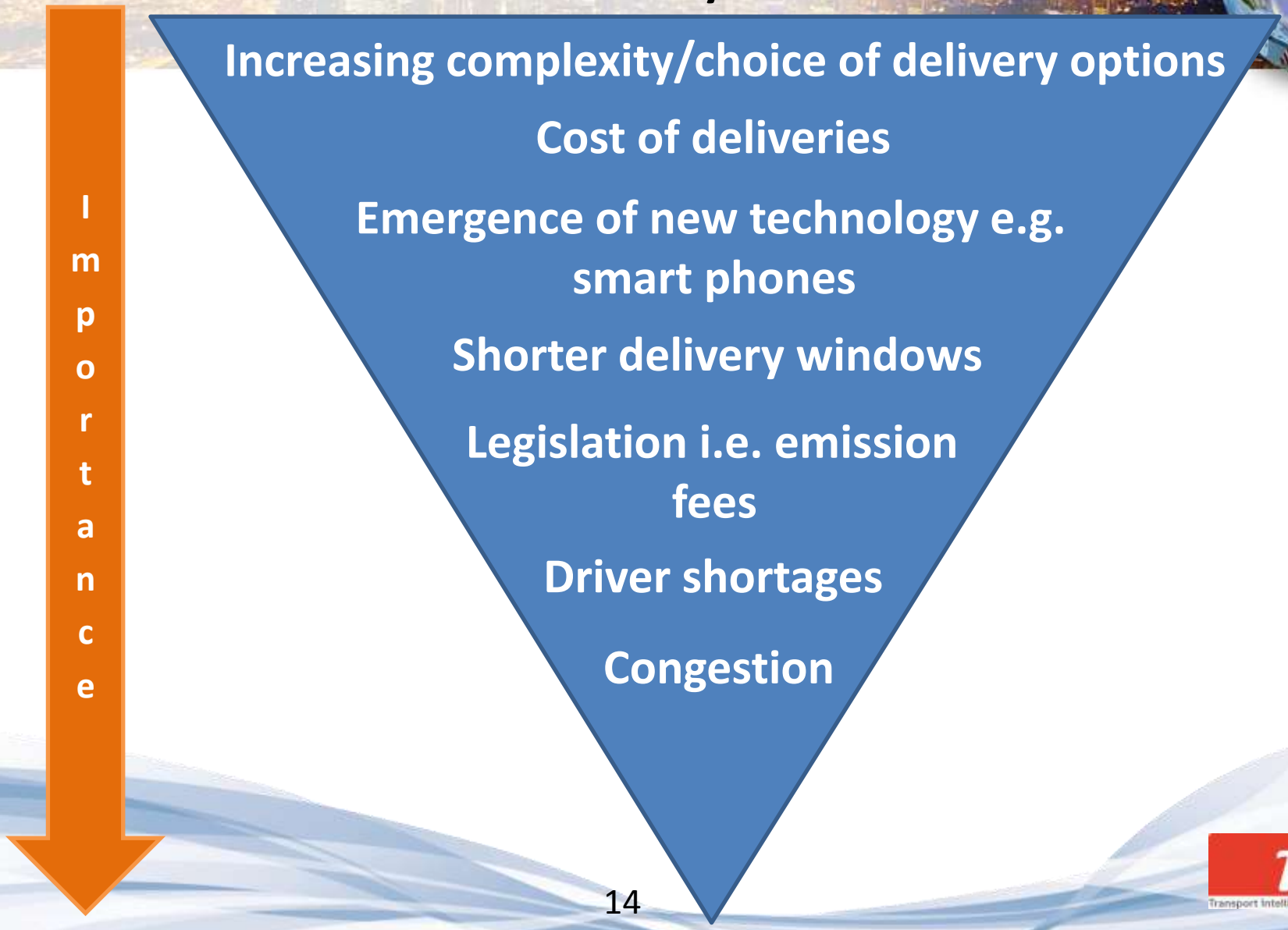
Autonomous vehicles

Future advances in technology will create Vehicle-to-Vehicle (V2V) and Vehicle-to-Infrastructure (V2I) communication allowing the theoretical removal of drivers from parts of the logistics business.

- Reduced fuel consumption and emissions – the computer will drive the vehicle more fuel efficiently
- 100% connectivity and location services allows for ‘perfect’ route planning
- Diagnostic services ensure correct maintenance and fewer breakdowns
- Emergency braking ensures fewer accidents
- Routes can be re-planned around known areas of congestion
- Accidents caused by human error will be eliminated.
- Customers can see delivery times, changing in line with the traffic situation.

The main drivers of innovation in last mile delivery



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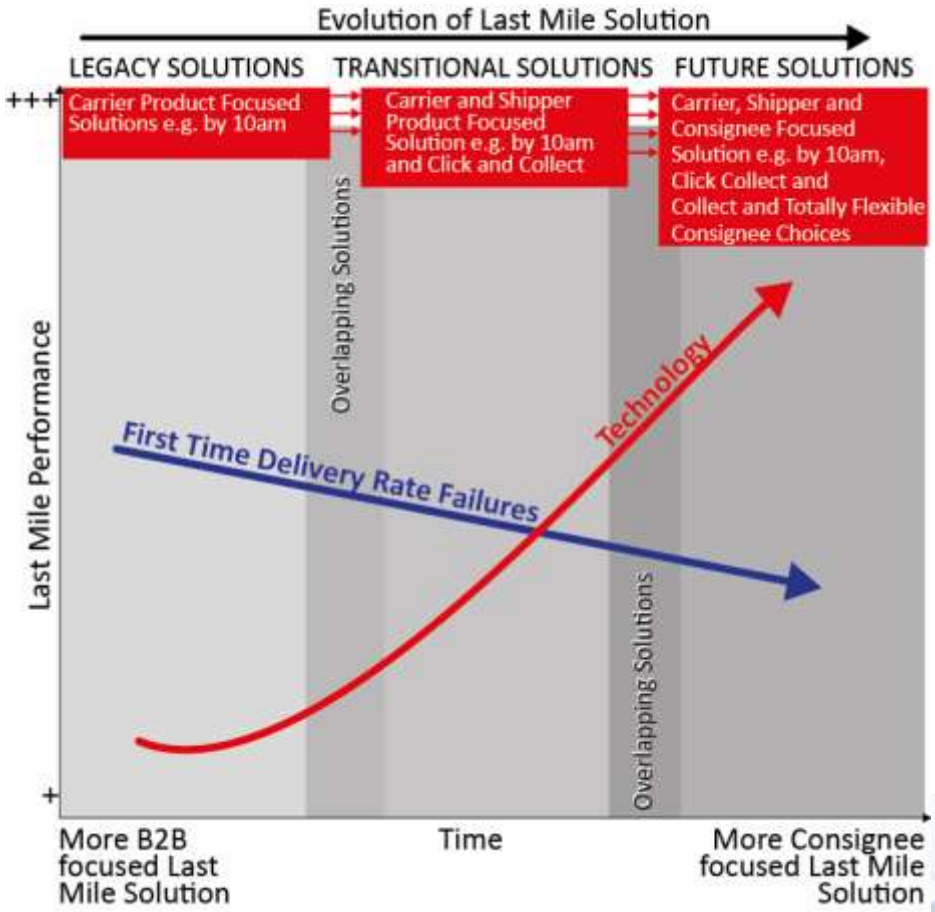
Last Mile Solutions

- Customers increasingly demand delivery choice of location and time plus flexibility.
- Carriers are paid low rates, have high delivery costs (dispersed residential network and not-at-homes), and low efficiency.
- How can these demands be met?
- Alternative delivery locations (e.g. lockers at train stations/garages etc, neighbour, depots). Evening and weekend deliveries.



Which delivery options will be most used?

1. Residential deliveries

2. Click & Collect

3. Alternative networks

4. Uber style deliveries

5. Crowd sourcing

In the Warehouse

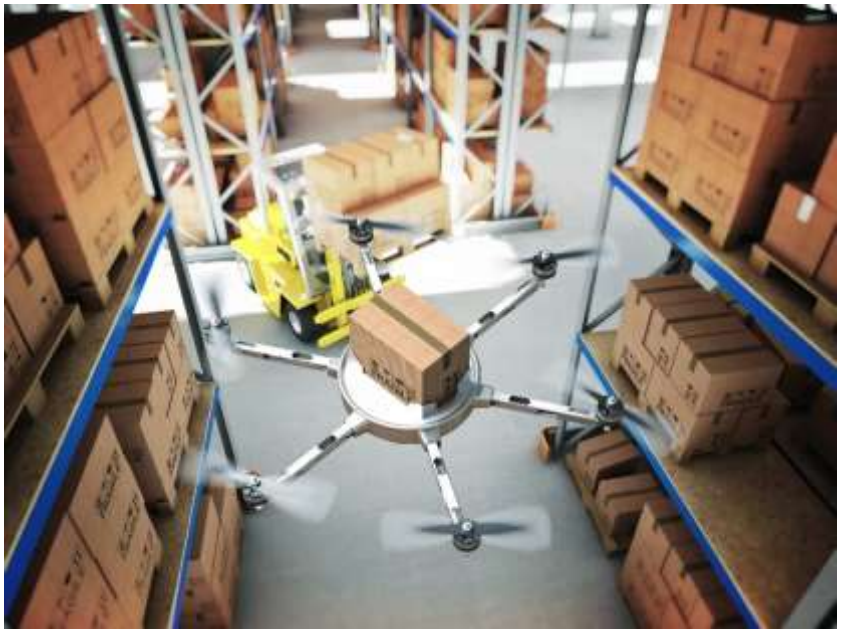
Augmented reality AR in the warehouse has several advantages.

- The headsets or glasses being used allow for hands-free picking from warehouse racking
- The optimal route to the correct picking face can be calculated and displayed for the operative to follow
- The recognition software tells whether user is in right location and picking the correct product and quantity, increasing accuracy
- The Warehouse Management System (WMS) is updated automatically
- Much less training is required, allowing labour to be used more flexibly.

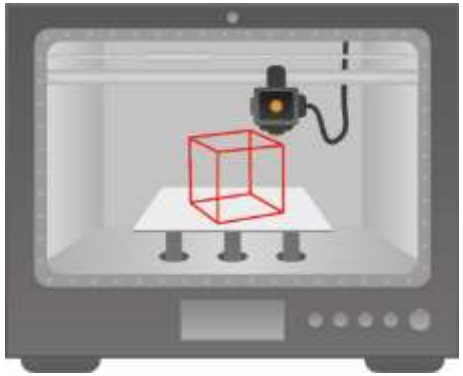
A trial which involved 10 pickers, 20,000 items and 9,000 orders resulted in efficiency savings of 25%, including zero errors.

Drones

- In December 2012, Amazon announced its proposal to deliver packages by drone-helicopter. DHL has followed suit.
- Marketing success but is there any real benefit?
- Perhaps, but only in very limited conditions and for specific supply chain needs.
- Questions of reliability, flight control and safety remain unanswered



3D Printing and Robotics



‘3D Printing’ and Robotics could become the biggest disruptive phenomenon to impact global industry since the introduction of assembly lines.

New technologies being developed will revolutionise production, resulting in a large proportion of manufacturing becoming automated and removing reliance on large and costly work forces.

This in turn could lead to a reversal of the trend of globalisation which has characterised industry and consumption over the last few decades.

‘Consumerization’ of manufacturing a possibility, in which case global and regional supply chains rendered redundant (in some sectors at least).

Spare parts could be the first sector to be impacted

Contact Transport Intelligence

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