Electronic Transport Records Project

Kick-off Workshop, Thursday, 25 September 2014

PROGRAMME

Session 1 (Open) – Chair: Prof. Johan Woxenius, University of Gothenburg

08:30 – 09:00	Registration (Tea and Coffee)
09:00 – 09:15	Welcome Remarks, Prof. Lars-Göran Malmberg, University of Gothenburg
09:15 – 09:30	Brief overview of the project, Dr. Abhinayan Basu Bal, University of Gothenburg
09:30 – 09:45	New Maritime Law on Electronic Transport Records, Prof. Gertjan van der Ziel
09:45 – 10:00	On-going Initiative on Electronic Transferable Records, Mr. Luca Castellani, UNCITRAL
10:00 – 10:15	Electronic Bill of Lading Practice in China, Associate Professor Guo Yu, Peking University
10:15 – 10:45	Coffee/ Tea Break
10:45 – 11:00	Trade Finance: Concepts, Challenges and Trends, Prof. Ted Lindblom, University of Gothenburg
11:00 – 11:15	Insurance Aspects of Electronic Documents, Dr. Miriam Goldby, Queen Mary University of London
11:15 – 11:30	Paperless Systems at Ports in West Africa, Dr. Philippe Garo, The McLean Group
11:30 – 11:45	Role of Big Data in Transport, Dr. Per-Olof Arnäs, Chalmers University of Technology
11:45 - 12:00	Closing remarks, Prof. Johan Woxenius
12:00 – 13:00	Lunch

UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Session 2 (Closed-door) – Chair: Prof. Lars-Göran Malmberg

13:00 – 16:00

Detailed discussion about research themes to be addressed in the ETR project, including:

- What is the current focus?
- What possible fields could be developed in the next two years?
- Dissemination and widening the network
- Discussion on opportunities and priorities
- Discussion on the future course of action of the project

ADDITIONAL INFORMATION & REGISTRATION

Venue: School of Business Economics and Law
Vasagatan 1, 411 24 Gothenburg, Sweden

Please register online via this link

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Electronic Transport Records

Abhinayan Basu Bal
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Gothenburg, 25 September 2014

Purpose of the Project -

- How to create an open (non-membership based) system that will facilitate both small and large businesses to –
  - adopt electronic records in international trade to reduce transaction costs;
  - reduce information asymmetry to better manage risks and provide greater access to finance;
  - make global supply chains secure and sustainable?

Closed vs. Open

Closed systems - membership based – English/US law

- Bolero – registry based model; promoted by the banking industry; evolved to introduce trade finance solutions.
- essDOCS – registry + token based model; mainly used by the commodity traders; FIATA pilot project.
  - Small shippers still use paper documentation while some large shippers use electronic bills of lading.

Open system – no membership required

- Can be based on the right of control concept under the Rotterdam Rules.
- The concept has its roots in the 1982 Venice Conference of CMI and the 1990 CMI Rules on Electronic Bills of Lading.
- Carrier/ Freight Forwarders will have to invest.
  - Compromised Operational Efficiency!
  - Returns?

International Trade and its Financing

- Current international trade relies heavily on global supply chains.
- There exist a two trillion dollar credit gap for MSMEs, a majority of who feed into global supply chains.
- Lead firms push inventory costs down on the suppliers.
- Open Account Terms leave MSMEs with reduced cash flow.
- The financial profile of the weakest link in the supply chain impacts the entire supply chain.

What is the Opportunity for the Maritime and Logistics Industries?

- Facilitate supply chain finance (SCF) which will go hand in hand with supply chain management (SCM).
  - Carriers have the best view on location of goods.
    - **where are the goods? (SCM).**
  - If more information is available to financial institutions on the fluctuating value of goods while they are being transported, there is the possibility to offset collateral against capital, thus turning the entire supply chain into a financial asset. This will enable financial institutions to mitigate financial risk within the supply chain.
  - Better cash flow for MSMEs.
  - Warehouse financing.
    - **how much are the goods worth? (SCF)**
- Carriers/ consolidators can develop the electronic transport record system which acts as a channel to access information; use of "big data" in transport.
- Insurances to be included in the bundle of services.

What Makes the Project Exciting?

- Timing
- Cross-disciplinary, cross-cultural and cross-border aspects
- Synergies with certain existing initiatives

New Maritime Law on Electronic Transport Records

by Gertjan van der Ziel

History

- 1980 – Gronfors' Cargo Key Receipt System

  Academic research and private application

- 1990 – CMI Rules for Electronic Bills of Lading

  International Rules made by the industry and meant to be incorporated by reference in maritime transport contracts

- 1996 – UNCITRAL Model Law on Electronic Commerce, artt. 16 + 17

  UN made model law meant to be taken over by governments in their national law

- 2008 – Rotterdam Rules

  UN made international law convention

Rotterdam Rules

- Comprehensive piece of legislation

- Seek to legally equalise paper maritime transport documents to their electronic equivalents
  keyword: control of document/electronic record

- Provide for codification of the rights of the holder of a maritime transport document
  keyword: control of goods (without use of a document/electronic record)

Legal equalisation of paper to record

- Basic principle of equalisation in art. 8:
  (1) any paper information may be in an electronic record
  (2) any handling of the record has the same effect as the corresponding handling of the paper document

- Elaborated in art. 9:
  use of a negotiable record is subject to agreed procedures that include the functional requirements to ensure that the record replicates the functions of the paper document

- Applied throughout the convention:
  each provision that refers to a transport document equalises in substance the equivalent electronic record

Codification of Document Holder's Rights

Right to control the goods during transit

- includes explicitly the rights to
  (1) obtain delivery of the goods prior to arrival at destination
  (2) replace the consignee with any other person including the controlling party itself
- exists even when no transport document or electronic record has been issued
- is a transferable right
  and if transferred independently of any document or record, the transfer must be notified to the carrier in order to be effective

Result: having the right of control may have similar legal effect as possession of a negotiable transport document

Conclusion

Rotterdam Rules provide the legal infrastructure that is needed for the (future) development of e-commerce systems in maritime transport, irrespective of the system makes use of an electronic transport record.

Reference literature:

- “The Rotterdam Rules”, by Sturley, Fujita and Van der Ziel, published by Sweet & Maxwell, 2010, Chapters III and IX
- “Electronic Documents in Maritime Trade” by Miriam Goldby, published by Oxford University Press, 2013

The work of UNCITRAL on legislative texts dealing with electronic transferable records

Luca Castellani

Secretary, UNCITRAL Working Group IV (Electronic Commerce)

Background: UNCITRAL and e-commerce law

- UNCITRAL has started work in the field of electronic commerce law in the 1980s.
- Its texts have set forth the fundamental legal notions necessary to adapt traditional contract law to the electronic environment
- As a result, a solid uniform legal core has been established to enable B2B electronic transactions at the national level
  - Some regions have been more receptive of UNCITRAL texts than others

Current challenges

- Electronic commerce technologies and business practices are in constant evolution
- UNCITRAL monitors those developments and prepares adequate legal solutions
- Areas currently of interest include:
  - Use of mobile devices
  - Identity management
  - Cloud computing
  - Enabling B2B across borders
    - UN Electronic Communications Convention
  - Addressing the B2G divide
    - Electronic single windows for customs operations / paperless trade facilitation

UNCITRAL and electronic transferable records: the UNCITRAL Model Law on Electronic Commerce

- The UNCITRAL Model Law on Electronic Commerce (1996) introduced the fundamental notion of functional equivalence (together with non-discrimination of electronic communications and technological neutrality)
- The MLEC also defined the requirements for the first time the functional equivalents of certain paper-based notions (writing, signature, original)

UNCITRAL and electronic transferable records: the UNCITRAL Model Law on Electronic Commerce

- Articles 16 and 17 of the MLEC aim at establishing the functional equivalents of paper-based transferable documents used in connection with the carriage of goods
  - These provisions have been sometimes enacted in national law but their actual use has never been reported
  - Article 17(3) establishes functional equivalence for transferable transport documents “provided that a reliable method is used to render such data message or messages unique”.

UNCITRAL and electronic transferable records: the Rotterdam Rules

- Fully enabling the use of electronic communications in the carriage of goods by sea was a main reason behind the decision of UNCITRAL to prepare a new text in that field
- Current operational business initiatives operate in a closed contractual environment and are registry-based
- The Rotterdam Rules restate substantive law to make it fully compatible with the use of electronic transferable transport records.
- Chapter 3 of the Rotterdam Rules allows for the use of electronic negotiable transport documents leaving practical details to the parties (or national law)

UNCITRAL and electronic transferable records: the Rotterdam Rules

- Article 9 Rotterdam Rules spells out the required procedures for the use of a negotiable electronic transport record:
  - Method for the issuance and the transfer of that record;
  - Assurance of integrity;
  - Manner in which the holder may demonstrate it is the holder;
  - Manner of providing confirmation that delivery was effected or that the record was terminated.

The current mandate of UNCITRAL Working Group IV (Electronic Commerce)

- UNCITRAL mandated its Working Group IV to prepare a legislative text on electronic transferable records
- Outcome must be technology neutral
  - both registry and token systems
- Could be a model law or a treaty
  - Also possible to devise a protocol to the Electronic Communications Convention
  - Current focus seems on model law
- Once finalized, possible need to fine-tune the draft provisions for each application (e-B/L, electronic promissory notes, electronic warehouse receipts)

The current mandate of UNCITRAL Working Group IV (Electronic Commerce)

- The scope of that mandate covers the dematerialisation of all paper-based transferable documents or instruments that allow to claim the payment of a sum or the delivery of goods and may circulate with delivery
  - Both carriage of goods and financing
  - Covers electronic bills of lading, electronic promissory notes, electronic warehouse receipts
- Few pieces of legislation on those topics (USA, East Asia)
  - Interestingly more successful with financing than with transport.

The discussion at UNCITRAL Working Group IV (so far)

- Possession of a paper-based transferable document or instrument allows to transfer the document or instrument (and the obligation incorporated therein) in a manner opposable to third parties
  - The exercise of control on a authoritative electronic record is the functional equivalent of possession
- The notion of original as set forth in the MLEC is not suitable for electronic transferable records
  - Focus on the notion of integrity
- Uniqueness does not need to be an absolute intrinsic feature
  - What counts is to reliably ensure that the claim may be presented to the debtor only once

To go further:

UNCITRAL's website:

http://www.uncitral.org/

E-mail contact:

luca.castellani@uncitral.org

E Bill of Lading Practice in China

Guo Yu
Law School
Beijing University

Current E BL Users

	Carrier	Bank	Cargo owner
Bolero	0	3	11
Ess	0	2	3

Attitudes of Carrier and Bank

* Determining factor for the choice:
* Carrier response: no customer requirements
* Cost and techniques are not big concerns

* Bank response: reduce cost; improve service levels; will not ask the customers to use

Cargo Owner Customers

- China Minmetals Non-Ferrous Metals
- Hebei Iron and Steel Group Jinding Mining
* Liuzhou Iron & Steel Co. Ltd.
* Xin Yu Iron & Steel Co. Ltd.
* CITIC jinZhou Metal co., Ltd.
* Guizhou Jinhe Smelt Company Ltd.
* Jiangsu Shagang Group

First Bolero B/L used in china

* Exporter: BHPB
* Importer: E Mei Ferroalloy Company
* Ocean Transportation Time: 13 days
* E B/L Arrive: 2 days
* Normal B/L Arrive: 10-20 days

Release without Original B/L

* Investigation in Tianjing Port:
* More than 50% dry cargo are delivered without B/L
* B/L transfers limited times
* Most of them are results of unwillingness of the buyers to pay the price
* Almost No disputes arise

Oil Cargo Owner

* Investigation of one of the biggest oil importer in China:
* B/L transfers many times
* B/L always arrive late
* 100% delivery without original B/L
* No dispute arise
* 80% payment by TT, 20% by L/C
* Payment not against B/L

Container Cargo Owner

* Investigation of 4 maritime courts in China:
* Delivery without original B/L cases accounted for 30% to 60 % of the carriage of goods by sea cases
* More than 85% of delivery without B/L cases happened in container transportation
* Most of the victims were Chinese exporters

E service of shipping companies

Investigation of one of the biggest liner company in China:

E signature on B/L

Online Cargo Tracking

Telex Release

Surrender B/L remotely

Temporary conclusions

* E B/L breaks the balance of interest between exporter and importer
* Some of the advantages of E B/L are overestimated
* The current E B/L solutions may against the interests of most of Chinese cargo owners

Problems for further consideration

* Shall we admit legality of E B/L?

CMC

* Article 71 A bill of lading is a document which serves as an evidence of the contract of carriage of goods by sea and the taking over or loading of the goods by the carrier, and based on which the carrier undertakes to deliver the goods against surrendering the same.

* Article 79 The negotiability of a bill of lading shall be governed by the following provisions:

  (1) A straight bill of lading is not negotiable;

  (2) An order bill of lading may be negotiated with endorsement to order or endorsement in blank;

  (3) A bearer bill of lading is negotiable without endorsement.

Functional Equivalent?

* Ess:
* ‘an essDOCS eB/L is the legal and functional equivalent of a paper bill of lading’
* Bolero:
* ‘Bolero eB/L is the electronic equivalent of a paper bill of lading··· is not simply an electronic version of the paper bill of lading. Rather it is a combination of a legal rulebook and technology which can replicate the functions of a traditional paper bill of lading’.

Trade Finance: Concepts, Challenges and Trends

Ted Lindblom

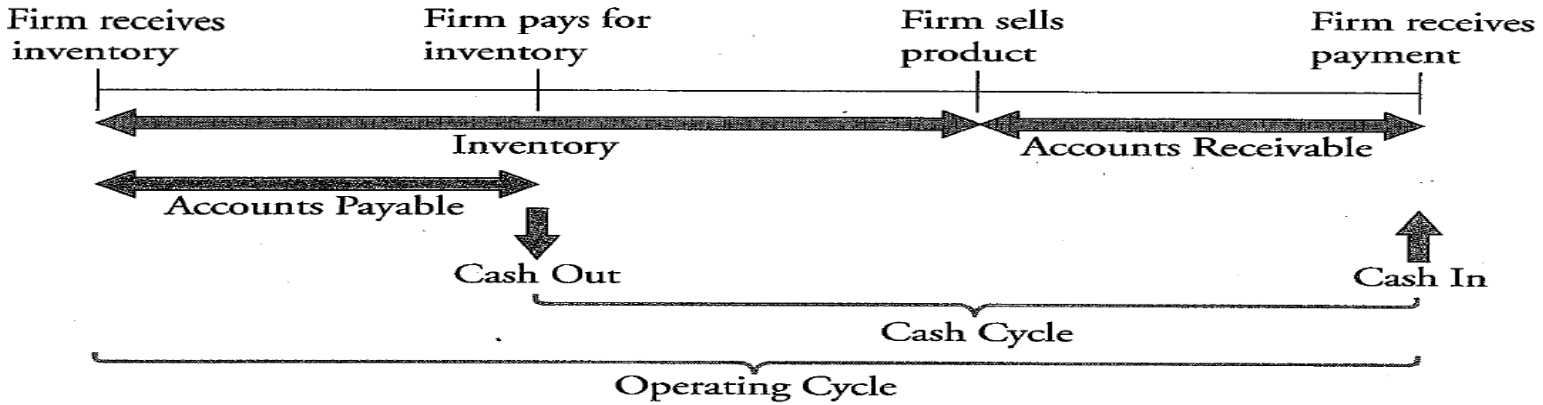
School of Business, Economics and Law, University of Gothenburg

Electronic Transport Records Project
Kick-off Workshop, Thursday, 25 September 2014

Trade Finance

Payment date differs from Sales/Delivery date

- Short-term trade credit – Working Capital



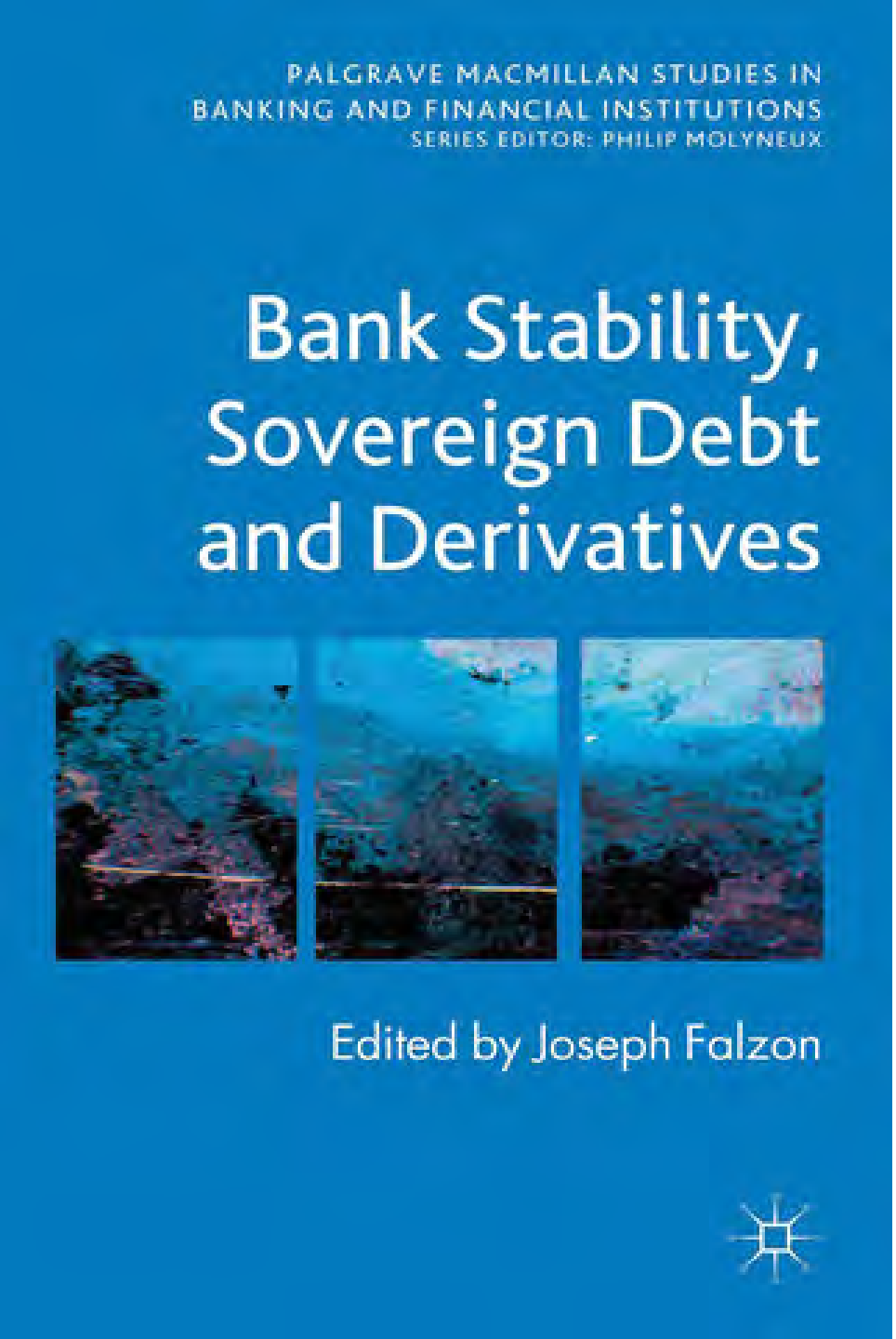
- Long-term financing – Capital structure

'the financial motive' seems to grow in importance (Schwartz, 1974; Mian and Smith, 1994; Petersen and Rajan, 1997; Jain, 2001; Bukart and Ellingsen, 2004).

According to Petersen and Rajan this is particularly true when ***ordinary credit from financial institutions is unavailable*** or when ***suppliers have better access to such credit than purchasing firms***

=> Capital costs

& Transaction Risk/Costs



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Trade Finance Payment Systems

"Open Account System" (OA) *(full payment is made after delivery)*

- *the supplier/seller extends trade credit to the purchaser/buyer*

The seller must obtain capital to finance the credit (bank loans, retained earnings etc), but is also exposed to the risk of non-payment from the buyer

"Cash-in-Advance System" (CA) *(pre-payment is made before delivery)*

- *the purchaser/buyer extends trade credit to the supplier/seller*

The buyer must obtain capital to finance the credit (bank loans, retained earnings etc) and is also exposed to the risk of non-delivery from the seller

"Letter of Credit System" (LC) *(provided by the bank of the seller)*

- *Conditional payment guarantee*

Non-payment risks are assumed by the buyer's and seller's bank, respectively

The transaction risk/cost is important for the choice of payment system

Trade Frequency & Information Quality

Domestic vs International Trade

International Trade Finance

- Banks/financial intermediaries play a central role
- International trade is riskier than domestic trade
- Greater counterparty risk/information asymmetry
- ***Information asymmetry*** is an important basis for financial intermediation and, thus, banking
- Banks have developed sophisticated monitoring systems and correspondent banking networks
- …**BUT** bank services are not free of charge

=>

An important challenge is to reduce information asymmetry in international trade

Supply Chain Finance (SCF)
– Opportunities & Threats –

- Physical flows in the supply chain are today managed efficiently both domestically and internationally
- Often a third party (e.g. the carrier) has access to firm specific information about the seller and the buyer

=> Opportunity to reduce information asymmetry

- …**BUT**; Who will have access to SCF?
- Efficient supply chain management tends to require very close co-operation with the "third party"

=> Threatens competition

Is it possible to create "open" SCF-platforms?

Electronic Certificates of Cargo Insurance

Miriam Goldby
CCLS, QMUL

Electronic Transport Records Project
Kick-off Workshop

University of Gothenburg

Thursday 25th September 2014

Which documents constitute a valid tender under CIF contracts?

- Traditional view:
  - Policy required:
    - *Ireland v Livingstone* (1872) LR 5 HL 395, 406
    - *Diamond Alkali v Bourgeois* [1921] 3 KB 443
  - Unless otherwise agreed: *Phoenix Insurance Co of Hartford v De Monchy* (1929) 34 Ll L Rep 201
  - C.f. US Law: *Aetna Ins Co v Willys-Overland, Inc*
- Present view:
  - Incoterms 2010 para A3(b) ("other evidence of insurance cover"); Reference to possibility of using electronic alternatives
  - UCP 600, Art 28 (a) and (d)

CIF Incoterms 2010

A3

- The seller must provide the buyer with the insurance policy or other evidence of insurance cover
- The insurance must be such as to entitle the buyer, or any other person having an insurable interest in the goods, to claim directly from the insurer.

A1 and B1

- An equivalent electronic record or procedure will satisfy the requirement to provide a policy or other evidence, if agreed between the parties or customary.

UCP 600 - Article 28

Insurance Document and Coverage

a. An insurance document, such as an insurance policy, an insurance certificate or a declaration under an open cover, must appear to be issued and signed by an insurance company, an underwriter or their agents or their proxies.

d. An insurance policy is acceptable in lieu of an insurance certificate or a declaration under an open cover.

Cargo Certificates

- Fac-Ob Open Covers (OCs) tend to be used: cover obtained upon declaration. Issue of certificates to evidence cover.
  - Role of Lloyd's Agency: Insurance Certificates Byelaw 2006, Article 3
- Electronically issued cargo certificates (EICCs) in use widely, including in the London Market.
  - Lloyd's Electronic Cargo Certificates: https://lloyds.genoainsurance.net/
  - Lloyd's London Market Certificates: http://www.llmc.lloyds.com/
- Underlying OC information is used to create "template information" on the certificates platform, such that certain blanks can be only be filled in within the limits allowed by the OC (use of drop-down menus etc.): safeguards against excess of authority.
- Through the platform, the insurer has access to real-time information on the number of certificates issued and what they cover: more accurate and timely billing information.

Insurance Certificates Byelaw 2006

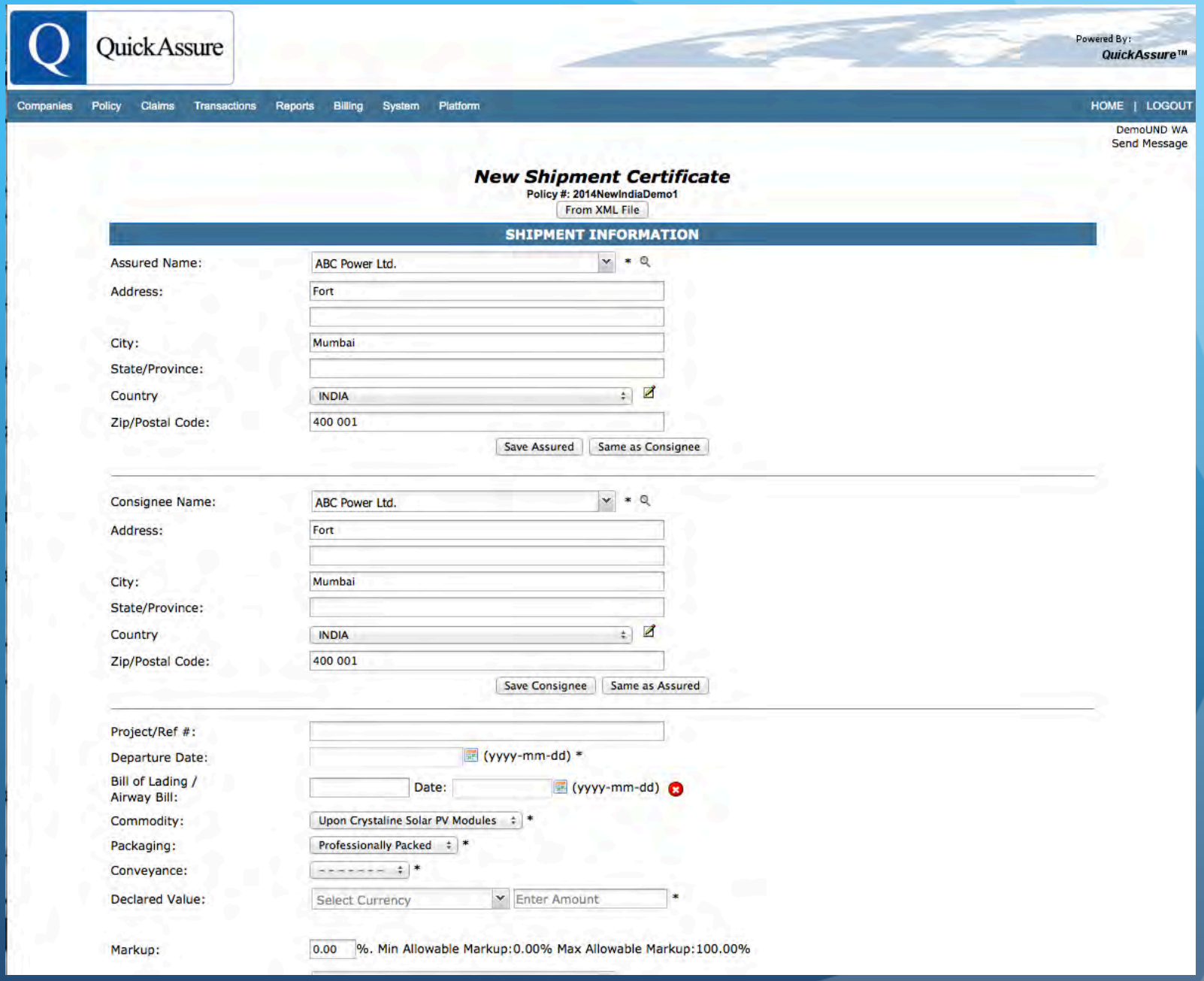
3. Electronic certificates

(1) The *Society* may-

(a) itself maintain, or procure the maintenance on its behalf by service providers, of one or more websites for the purpose of issuing *insurance certificates*; or

(b) issue *insurance certificates* through a website maintained by, or on behalf of, a *Lloyd's broker*.

(2) The *Society* may enter into such contracts and arrangements (including the giving of indemnities and warranties by the *Society* and the limitation of liability on the part of any *person*) with service providers, *Lloyd's brokers* or *non-Lloyd's brokers* or other *persons* as are necessary or expedient for the purposes of or in connection with the maintenance or use of any website or the provision of electronic certificates.


QuickAssure
Powered By:
QuickAssure™
Companies
Policy
Claims
Transactions
Reports
Billing
System
Platform
HOME | LOGOUT
DemoUND WA
Send Message
New Shipment Certificate
Policy #: 2014NewIndiaDemo1
From XML File
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Assured Name:
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Address:
Fort
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Mumbai
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Same as Assured
Project/Ref #:
Departure Date:
(yyyy-mm-dd) *
Bill of Lading / Airway Bill:
Date:
(yyyy-mm-dd)
Commodity:
Upon Crystaline Solar PV Modules
Packaging:
Professionally Packed
Conveyance:
Declared Value:
Select Currency
Enter Amount
Markup:
0.00
%. Min Allowable Markup:0.00% Max Allowable Markup:100.00%

Country	INDIA
Zip/Postal Code:	400 001

Save Consignee | Same as Assured

Project/Ref #:	974976
Departure Date:	2014-09-18 (yyyy-mm-dd) *
Bill of Lading / Airway Bill:	Date: (yyyy-mm-dd)
Commodity:	Upon Crystaline Solar PV Modules *
Packaging:	Professionally Packed *
Conveyance:	Ocean *
Declared Value:	USD 100 000.00 *
	One Hundred Thousand
Markup:	0.00 %. Min Allowable Markup:0.00% Max Allowable Markup:100.00%
Vessel/Carrier:	ALBERT MAERSK *
Voyage/Flight #:	021

Country From:	CANADA *
State/Province From:	Quebec
City From	Montreal *
Country of Loading:	CANADA *
Loading Facility:	Montreal *

Transhipment (+)

Country To:	UNITED KINGDOM *
State/Province To:	
City To	London *
Country of Discharge:	UNITED KINGDOM *
Discharge Facility:	*

Claims Agent:	Maritime Allied Projects Ltd. *
Cargo Interest/Description:	Mobile Phones *
Marks and Numbers:	Container Number 10934709 *

Assignment: MIA 1906

6. When interest must attach.

(1) The assured must be interested in the subject-matter insured at the time of the loss though he need not be interested when the insurance is effected…

…

15. Assignment of interest.

Where the assured assigns or otherwise parts with his interest in the subject-matter insured, he does not thereby transfer to the assignee his rights under the contract of insurance, unless there be an express or implied agreement with the assignee to that effect.

Assignment: MIA 1906

50.— When and how policy is assignable.

(1) A marine policy is assignable unless it contains terms expressly prohibiting assignment. It may be assigned either before or after loss.

…

(3) A marine policy may be assigned by indorsement thereon or in other customary manner.

51. Assured who has no interest cannot assign.

Where the assured has parted with or lost his interest in the subject-matter insured, and has not, before or at the time of so doing, expressly or impliedly agreed to assign the policy, any subsequent assignment of the policy is inoperative

Assignment: EICCs

- Technologically feasible (use of registry), but there may be legal barriers: MIA 1906, s 50 (re policies)
  - "indorsement"
  - "any other customary manner"
    - *Safadi v Western Assurance Co* (1933) 46 Ll L Rep. 140, 144
    - *Iraqi Ministry of Defence v Arcepey Shipping Co SA (The Angel Bell)* [1979] 2 Lloyd's Rep 491.
- Functionality not built into current systems, either for policies or for certificates
  - Legal obstacles?
  - Lack of market demand?
    - Too complex?
    - Too expensive?
- Alternative: circulate in paper form
  - Fraud risk
  - Who will suffer the loss caused by the fraud?

Is assignment necessary?

- Can broker or OC assured act as agent for all subsequent cargo interests? MIA 1906 ss 23 and 86

23. What policy must specify.

A marine policy must specify … the name of the assured, *or of some person who effects the insurance on his behalf*

86. Ratification by assured.

Where a contract of marine insurance is in good faith effected by one person on behalf of another, *the person on whose behalf it is effected may ratify the contract* even after he is aware of a loss.

THANK YOU

Electronic Transport Records Project

University of Gothenburg

School of Business, Economic and Law

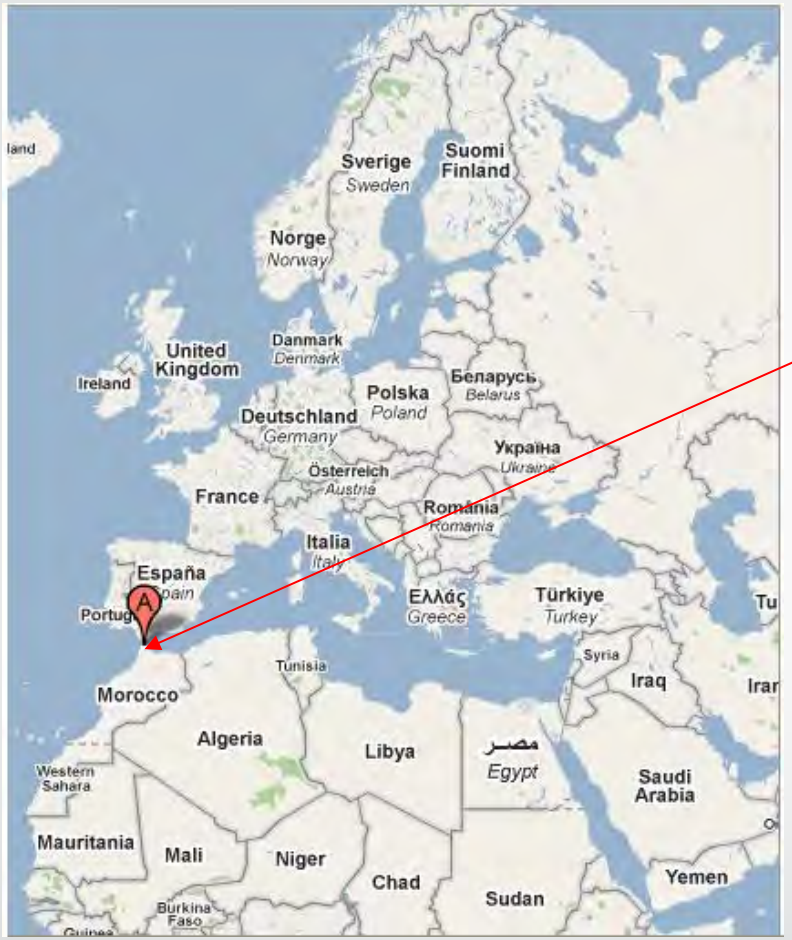
Thursday, 25th September

Philippe GARO

Director at **McLEANS**

WAMS Managing director

Paperless Trading Systems in West African Ports



TangerMed port,
Morocco
HUB
2.5M TEU in 2013

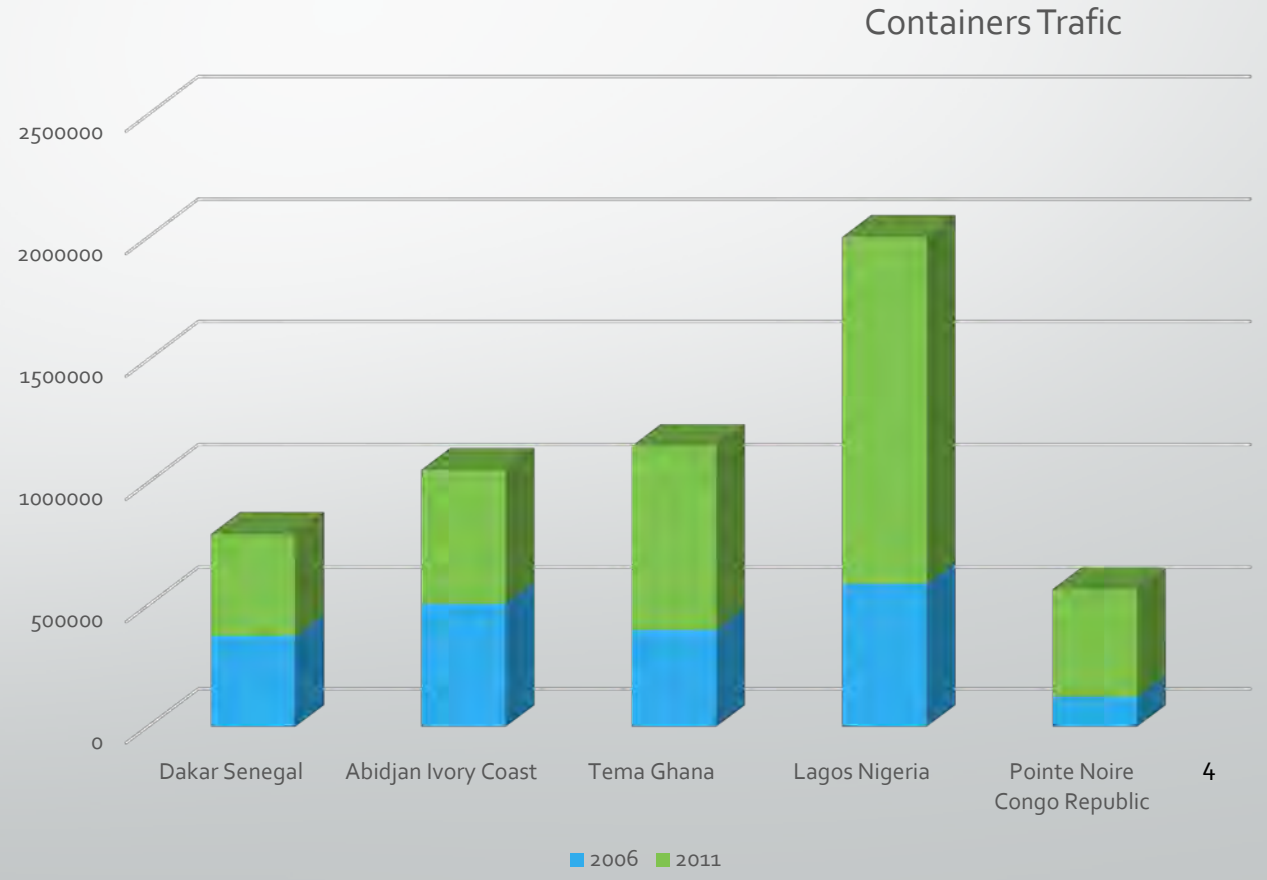
The McLean Group

WAMS

West African Ports

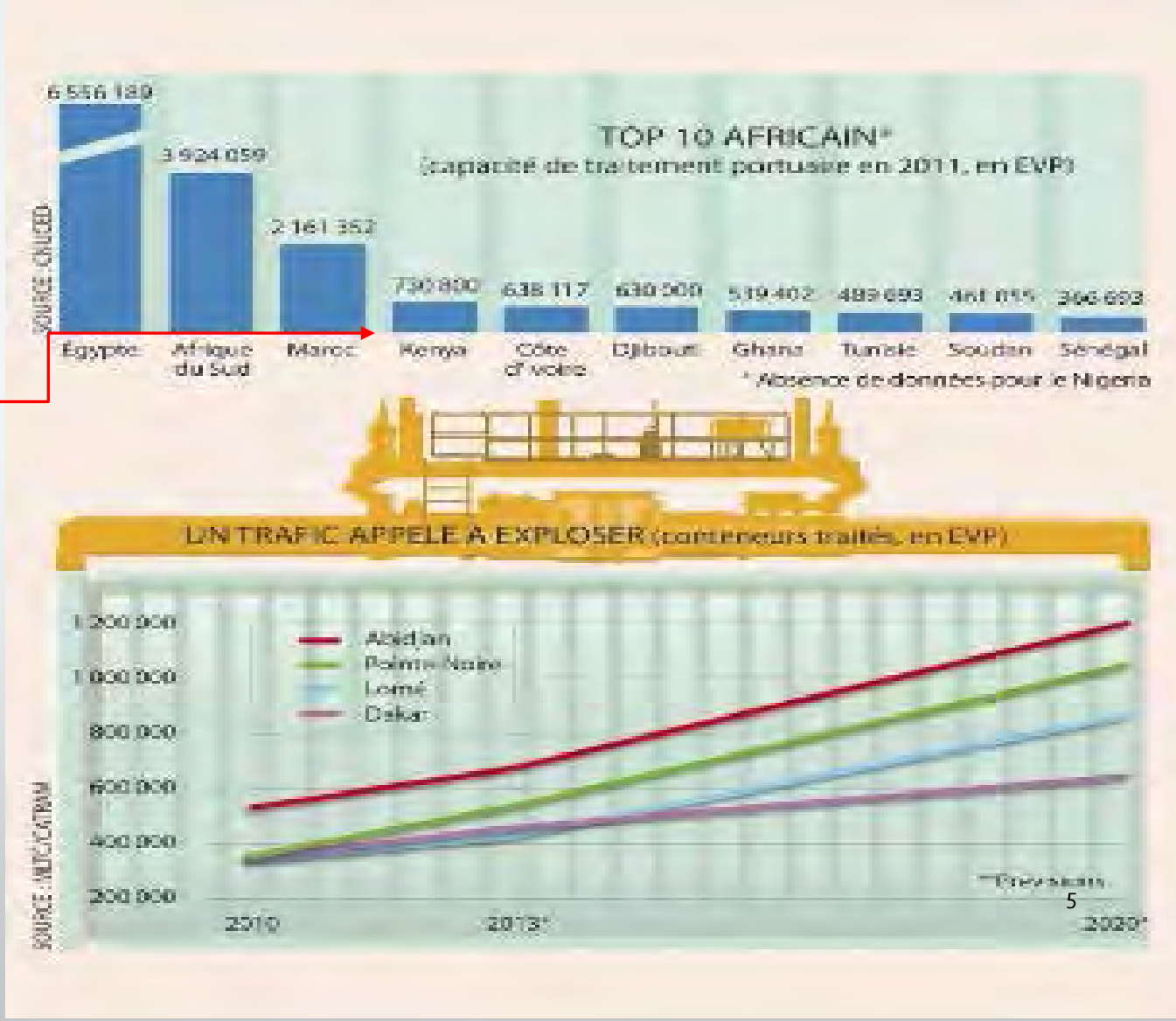
38 ports from Mauritania to Namibia

Some 30 Liners regularly call in those ports

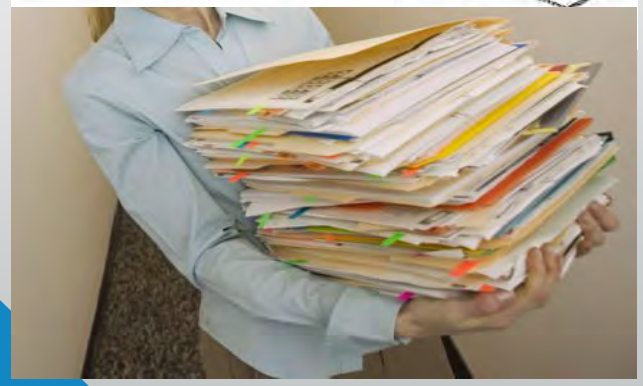


West Africa - Containers

Nigeria
1,956,000
TEU



Procedures in West African ports :



Not easy !

Main issue :

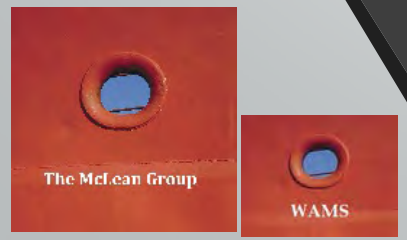
Delay

Very long cargo transit in African ports

Single Window

To have an integrated Single Window approach working across Trade, Maritime and Port Community Systems along the entire supply chain.

United Nations Economic Commission for Europe



With its partners the WORLD BANK

& UNECA (Economic Commission for Africa)


SWC
Conférence Internationale sur les Guichets Uniques
en 2015
au Palais des Congrès à Brazzaville, Republique du Congo

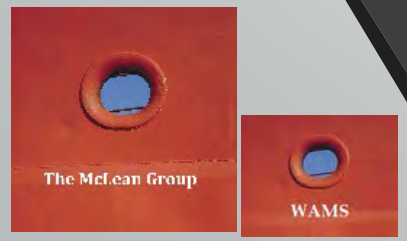

SWC
Conférence Internationale
sur les Guichets Uniques
Conférence & Exposition
16 au 18 Septembre 2013, Hôtel Carlton,
Antananarivo, Madagascar


SWC

Single Window :

A facility that allows parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfil all import, export, and transit-related regulatory requirements. If information is electronic, then individual data elements should only be submitted once.

Recommendation n°33
United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) - 2005

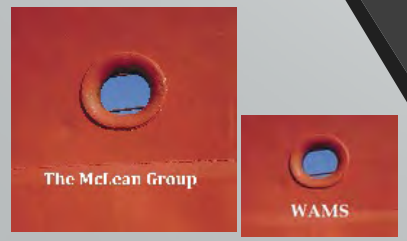


Three different SW :

SW for Customs clearance

SW for Logistic coordination (CCS or PCS)

B2B SW (LC or Logistics services)



SINGLE WINDOWS in West African countries

Ghana : GCNet (2002)

Senegal : ORBUS (2004)

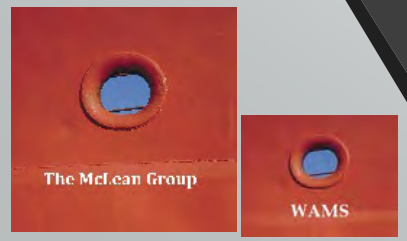
Cameroon : e-GUCE (2007)

Madagascar : TradeNet (2007)

Ivory Coast : APSNET (2007)

Benin : SEGUB (2011)

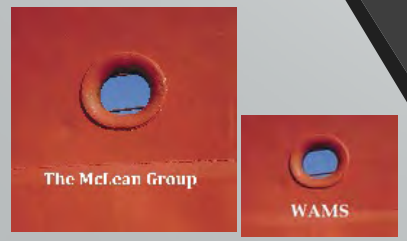
Congo Republic : GUOT (2013)



SEGUB

Société d'Exploitation du Guichet Unique du Bénin

BENIN



SEGUB

Société d'Exploitation du Guichet Unique du Bénin

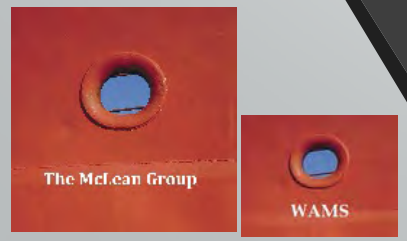
Positive Impact

CUSTOMS Rights collected

(2011 – 2013) : +39,55%

Transit time in the port :

from 30 days to 4 days



GUCE

GUICHET UNIQUE DES OPERATIONS DU COMMERCE EXTERIEUR-GIE

Cameroon

The McLean Group

WAMS

Legal Framework in Cameroon

- Law n°2010/021 on Electronic commerce 21/12/2010

And its decree n°2011/1521 dated 15/6/2011

- Law n°2010/012 21/12/2010 on the cyber crime

- Law n°2010/013 on Electronic communication

GUCE

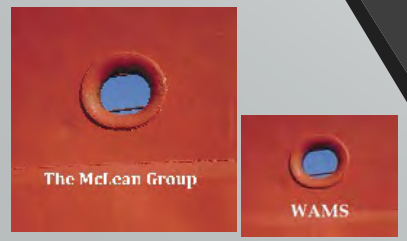
GUICHET UNIQUE DES OPERATIONS DU COMMERCE EXTERIEUR-GIE

Positive Impact

Cars clearance : 24h (i/o 7 days)

Customs Clearance : -3h i/o 6 days

Receipt for PVI : -2h i/o 72h



CONCLUSION

Thank you very much

CHALMERS
UNIVERSITY OF TECHNOLOGY

NORTHERN LEAD

Big data in freight transport

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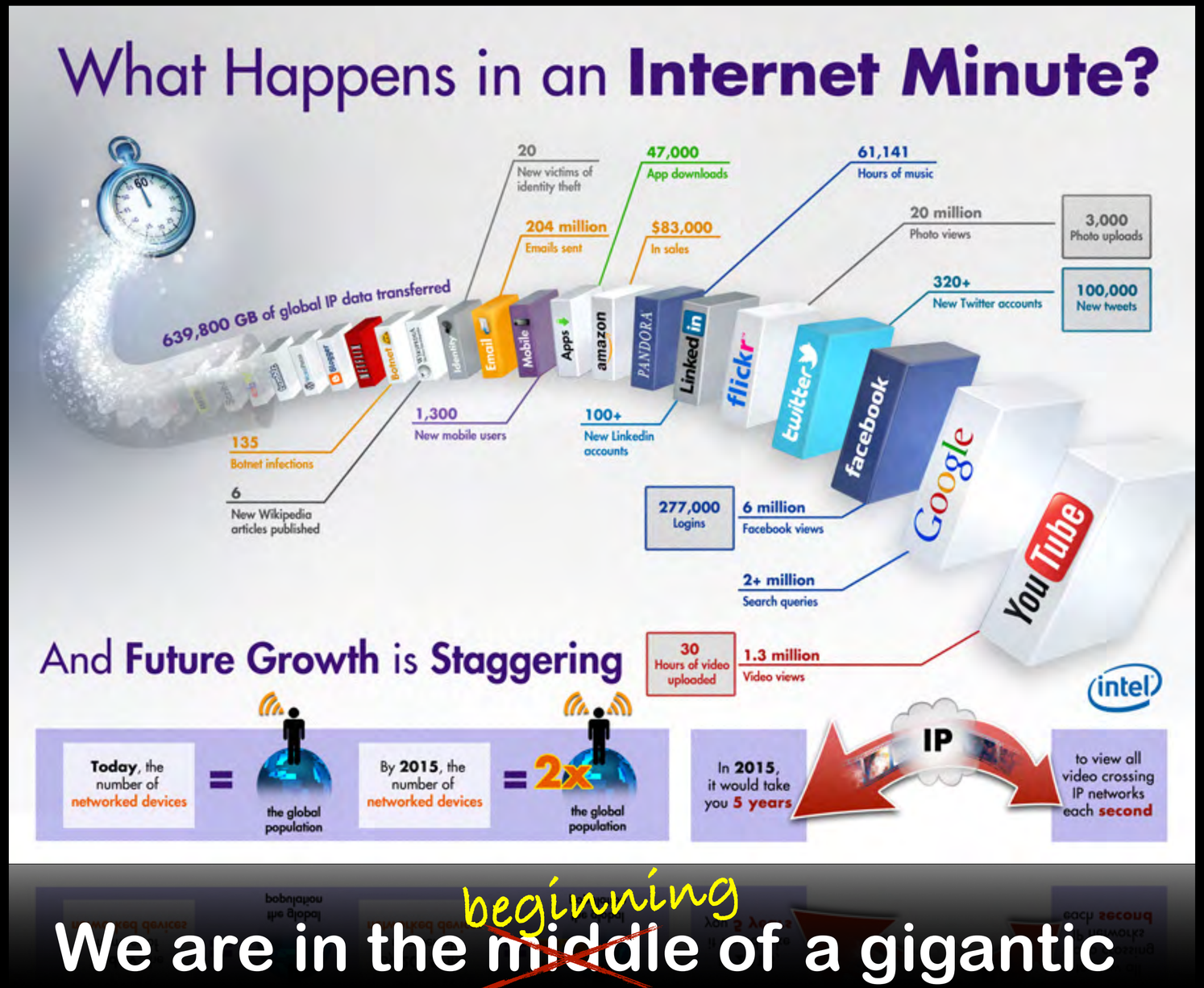
per-olof.arnas@chalmers.se

Slides on slideshare.net/poar

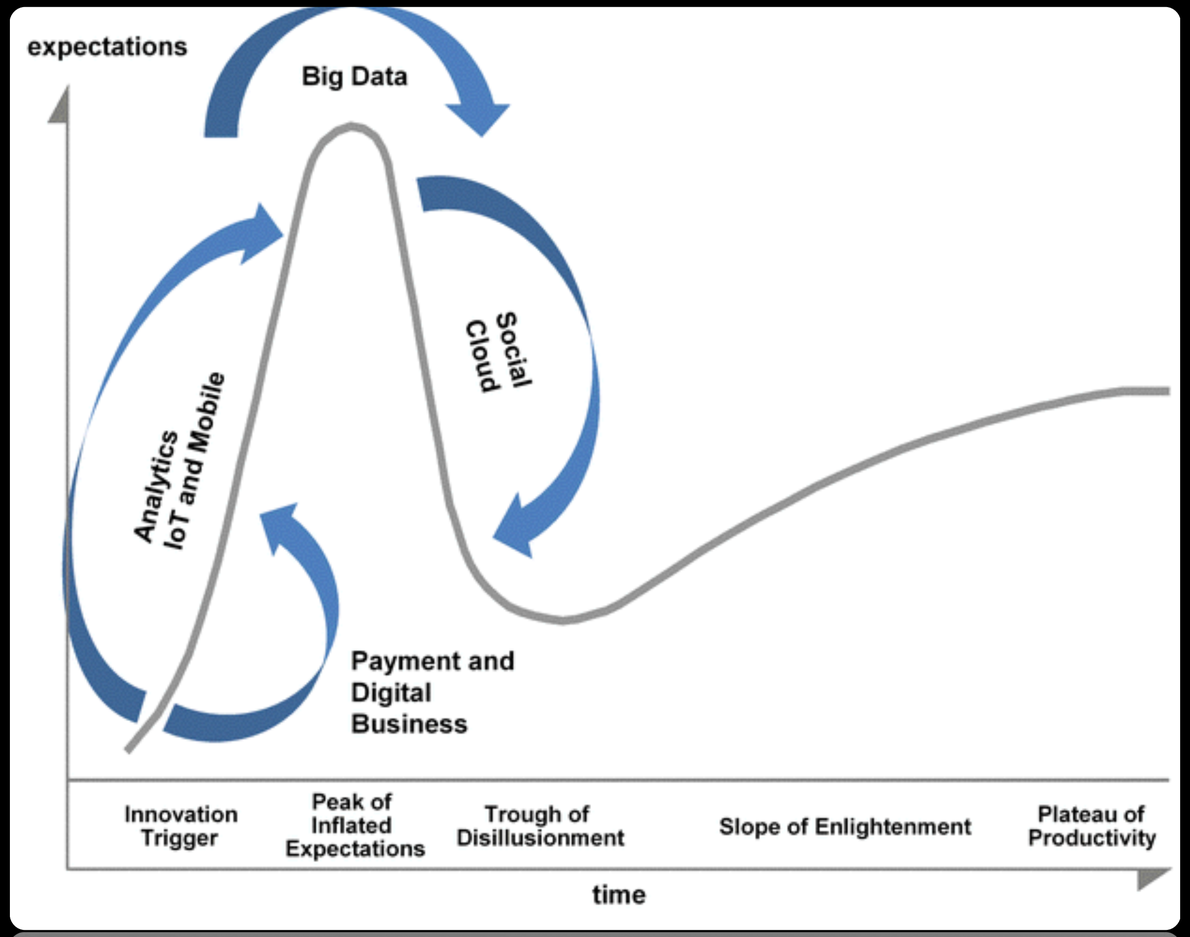
Film by Foursquare. Google: checkins foursquare



beginning

We are in the ~~middle~~ of a gigantic **exponential** development curve

Gartners Hype Cycle for Emerging Technologies



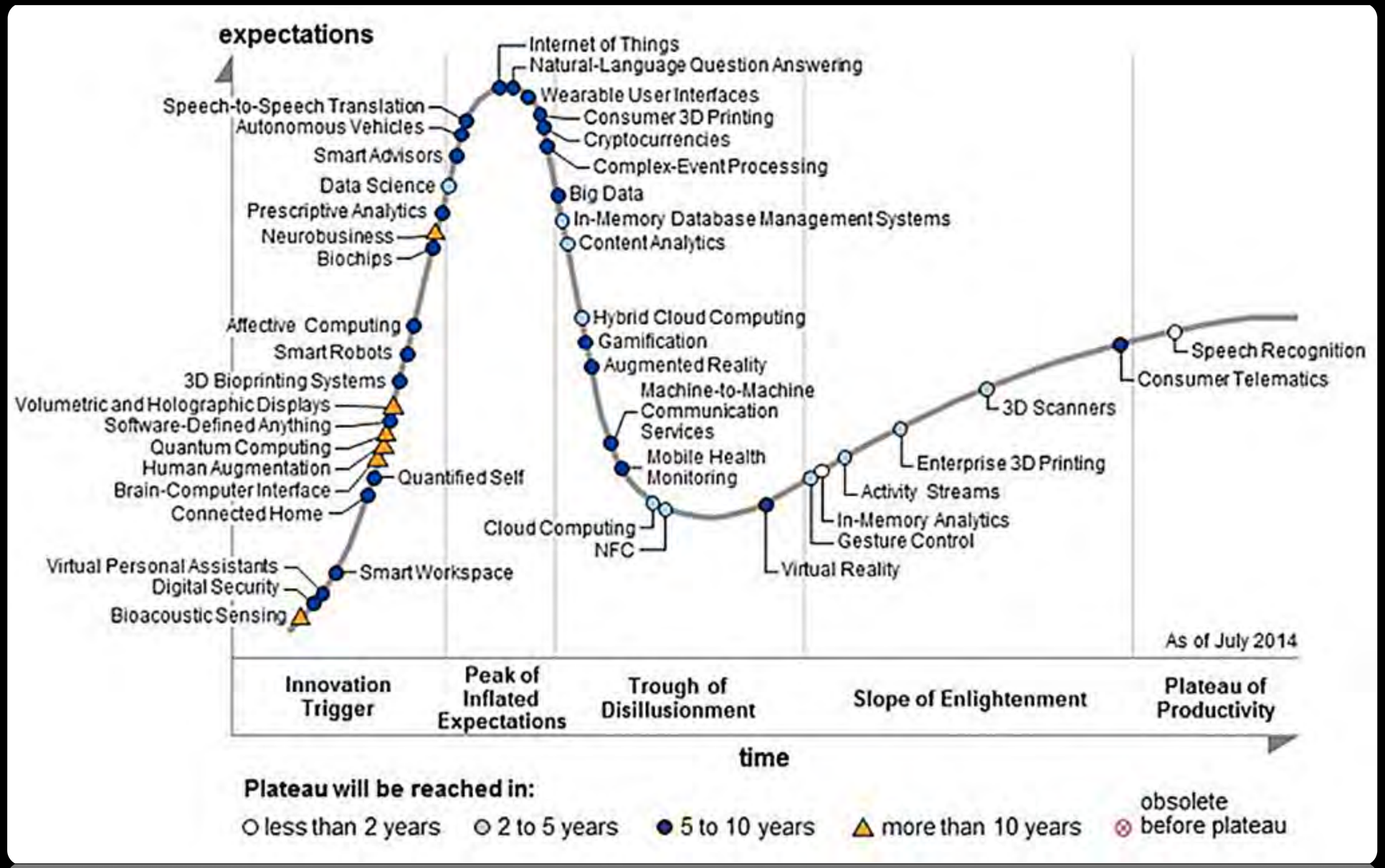
”Fast Up-and-Coming Movers Toward the Peak Are Fueled by Digital Business and Payments”

”…the market has settled into a reasonable set of approaches, and the new technologies and practices are additive to existing solutions”

(regarding the decline of Big data on the curve)

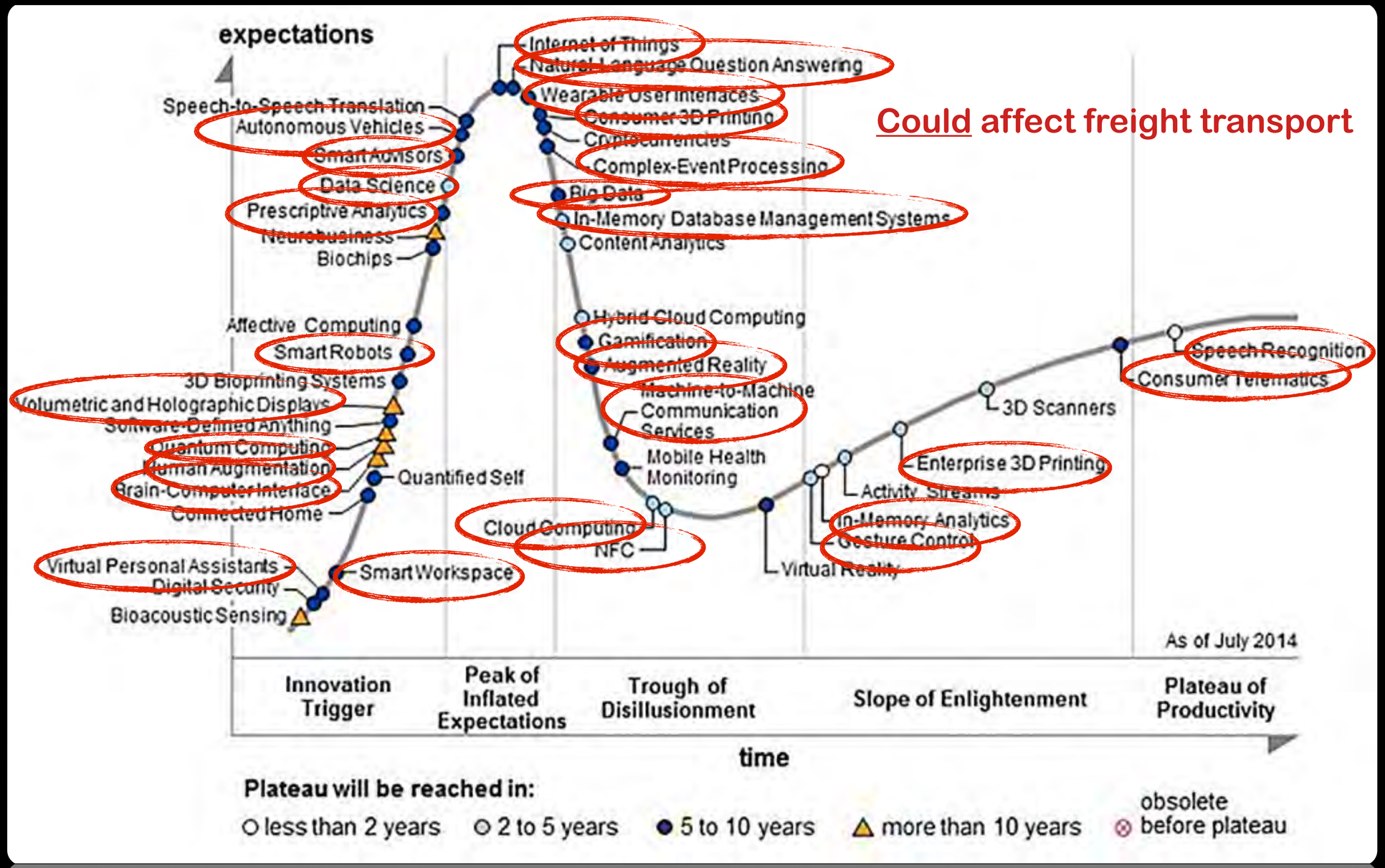
Gartner, August 2014

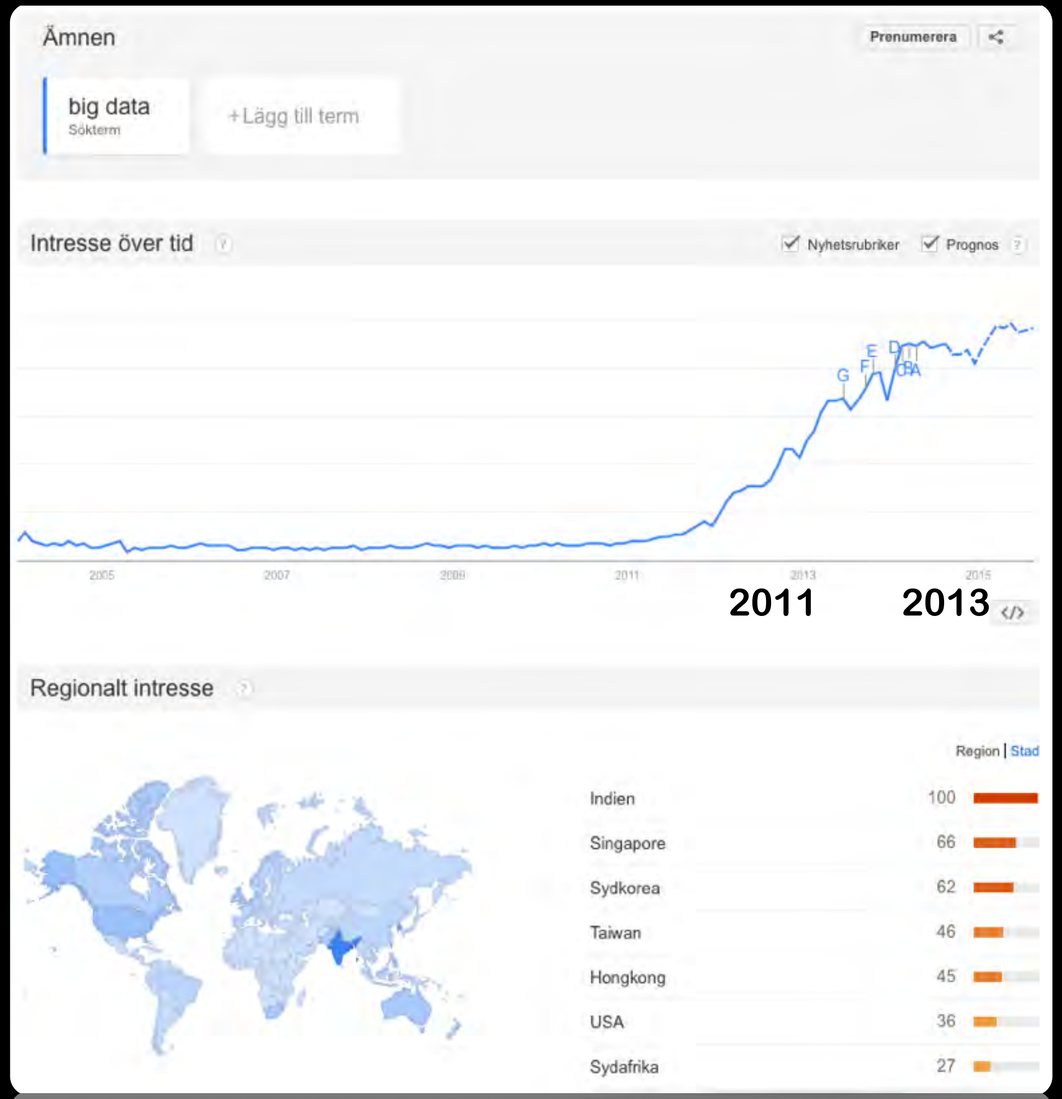
Gartners Hype Cycle for Emerging Technologies



Source: Gartner August 2014

Gartners Hype Cycle for Emerging Technologies





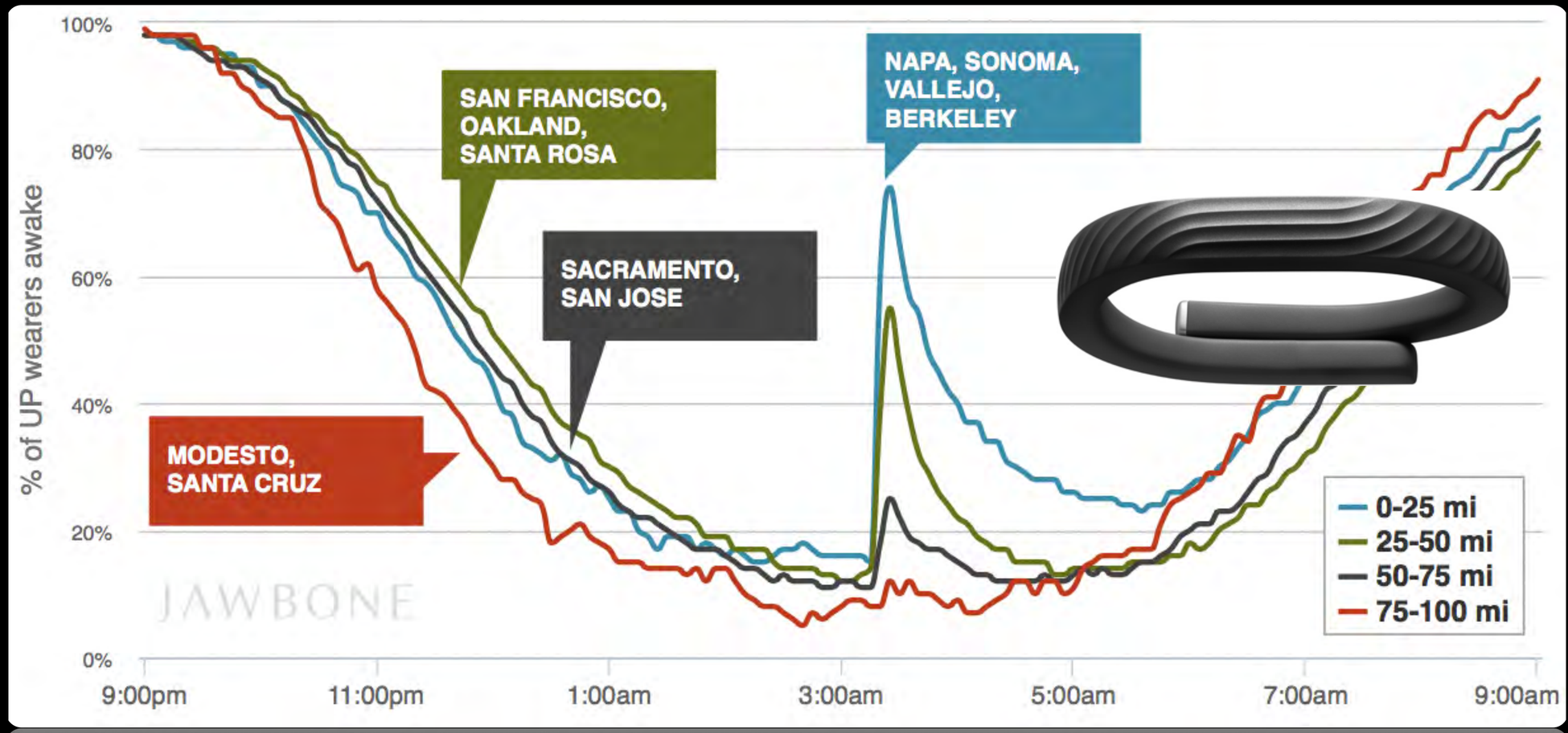
”Big data is an all-encompassing term for **any collection of data** sets so **large** and **complex** that it becomes **difficult to process** using on-hand data management tools or traditional data processing applications.”

- Wikipedia

Google flights

https://www.google.se/flights/

Jawbone measures sleep interruption during earthquake



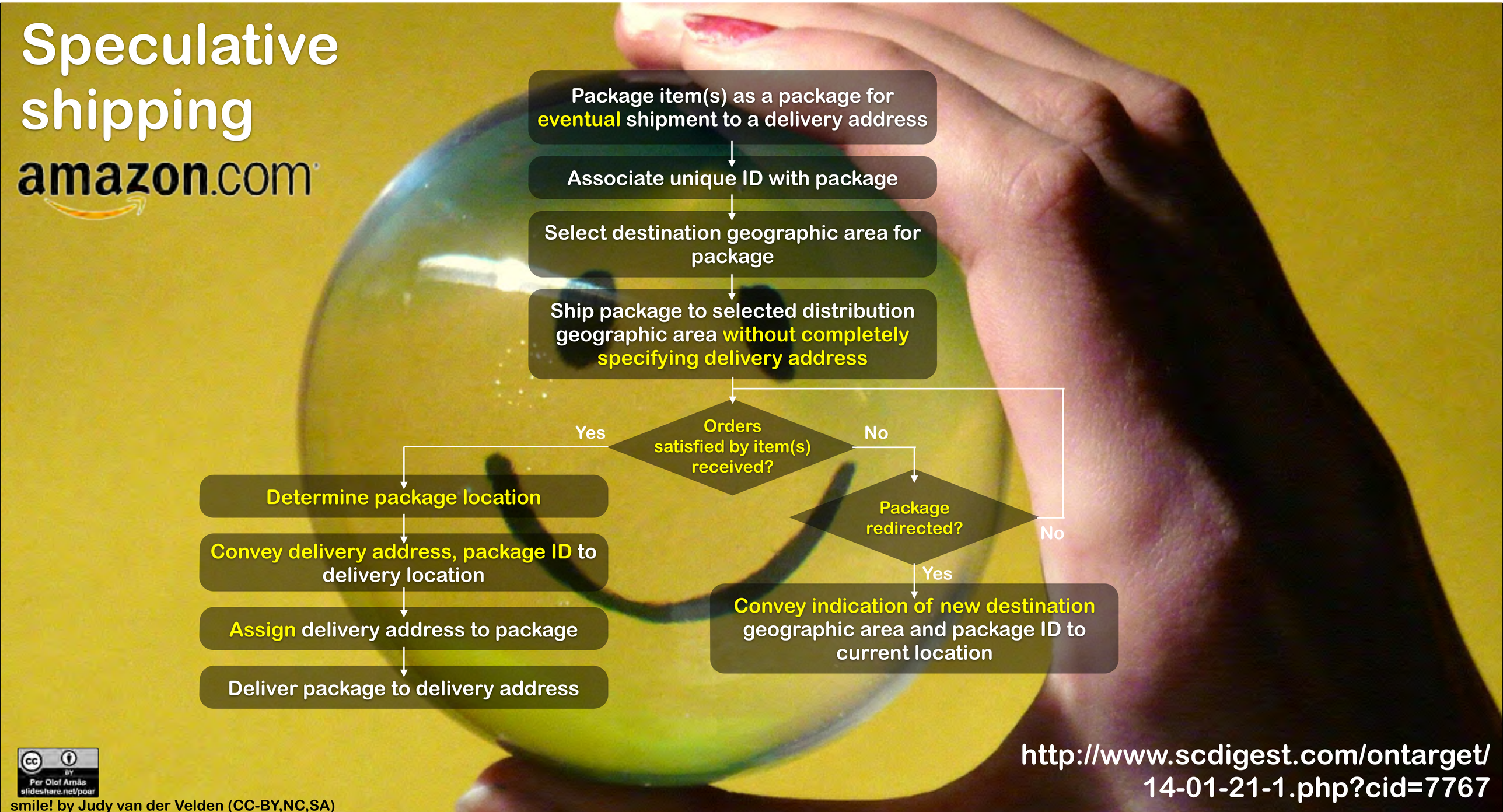
https://jawbone.com/blog/napa-earthquake-effect-on-sleep/

Speculative shipping

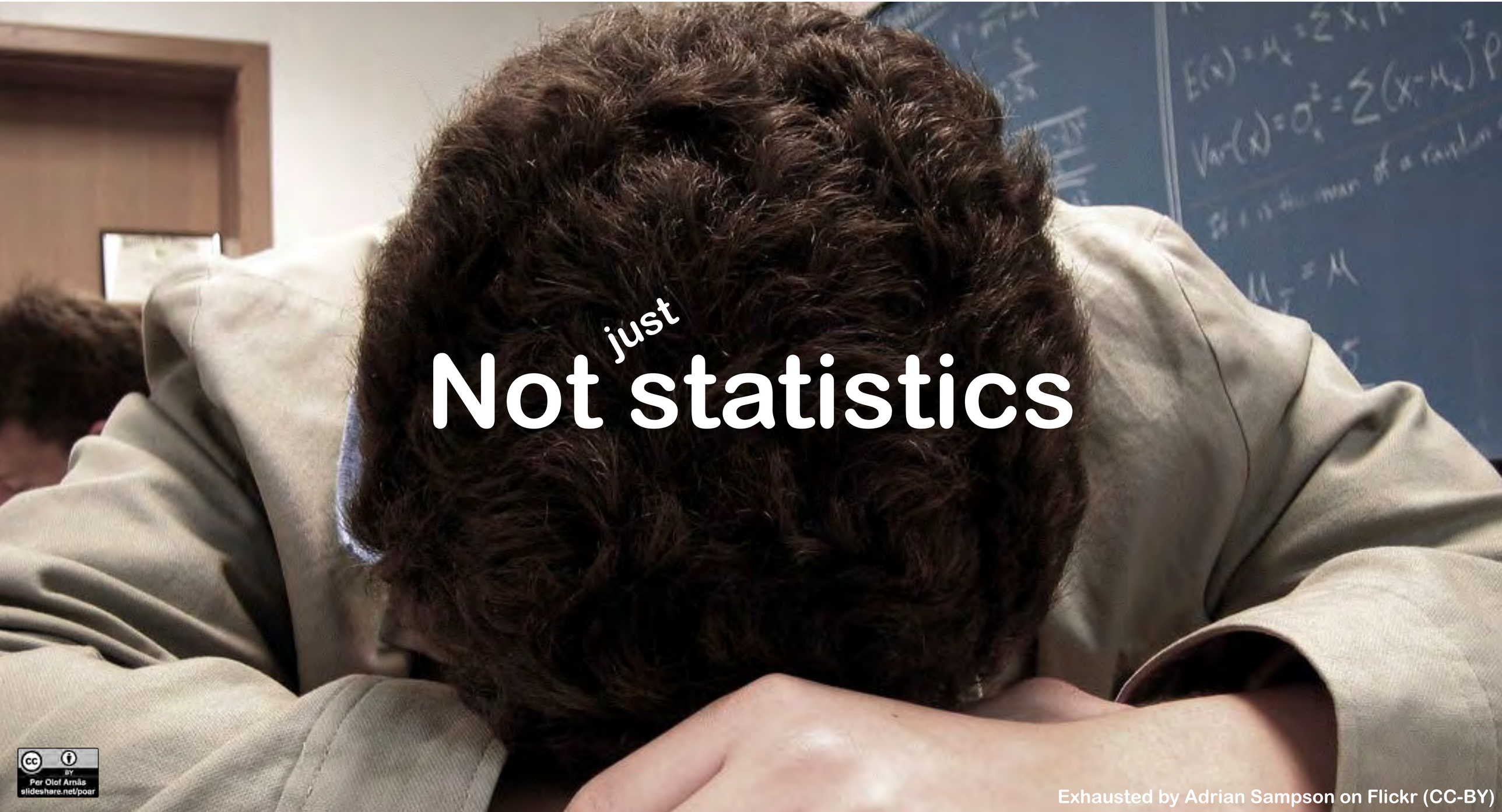
http://www.scdigest.com/ontarget/14-01-21-1.php?cid=7767

Speculative shipping

amazon.com



http://www.scdigest.com/ontarget/14-01-21-1.php?cid=7767



Not just statistics

Exhausted by Adrian Sampson on Flickr (CC-BY)

Not just Business Intelligence

Basingstoke Office Staff Desk "No computer" by John Sheldon on Flickr (CC-BY,NC,SA)

The FOUR V's of Big Data

From traffic patterns and music downloads to web history and medical records, data is recorded, stored, and analyzed to enable the technology and services that the world relies on every day. But what exactly is big data, and how can these massive amounts of data be used?

As a leader in the sector, IBM data scientists break big data into four dimensions: **Volume, Velocity, Variety and Veracity**

Depending on the industry and organization, big data encompasses information from multiple internal and external sources such as transactions, social media, enterprise content, sensors and mobile devices. Companies can leverage data to adapt their products and services to better meet customer needs, optimize operations and infrastructure, and find new sources of revenue.

By 2015
4.4 MILLION IT JOBS
will be created globally to support big data, with 1.9 million in the United States

Volume
SCALE OF DATA

40 ZETTABYTES
[43 TRILLION GIGABYTES]
of data will be created by 2020, an increase of 300 times from 2005

It's estimated that
2.5 QUINTILLION BYTES
[2.3 TRILLION GIGABYTES]
of data are created each day

6 BILLION PEOPLE
have cell phones

Most companies in the U.S. have at least
100 TERABYTES
[100,000 GIGABYTES]
of data stored

Variety
DIFFERENT FORMS OF DATA

As of 2011, the global size of data in healthcare was estimated to be
150 EXABYTES
[161 BILLION GIGABYTES]

By 2014, it's anticipated there will be
420 MILLION WEARABLE, WIRELESS HEALTH MONITORS

4 BILLION+ HOURS OF VIDEO
are watched on YouTube each month

30 BILLION PIECES OF CONTENT
are shared on Facebook every month

400 MILLION TWEETS
are sent per day by about 200 million monthly active users

Velocity
ANALYSIS OF STREAMING DATA

The New York Stock Exchange captures
1 TB OF TRADE INFORMATION
during each trading session

Modern cars have close to
100 SENSORS
that monitor items such as fuel level and tire pressure

By 2016, it is projected there will be
18.9 BILLION NETWORK CONNECTIONS
– almost 2.5 connections per person on earth

Veracity
UNCERTAINTY OF DATA

1 IN 3 BUSINESS LEADERS
don't trust the information they use to make decisions

in one survey were unsure of how much of their data was inaccurate

Poor data quality costs the US economy around
$3.1 TRILLION A YEAR

Sources: McKinsey Global Institute, Twitter, Cisco, Gartner, EMC, SAS, IBM, MEPTEC, QAS

IBM

http://dashburst.com/infographic/big-data-volume-variety-velocity/

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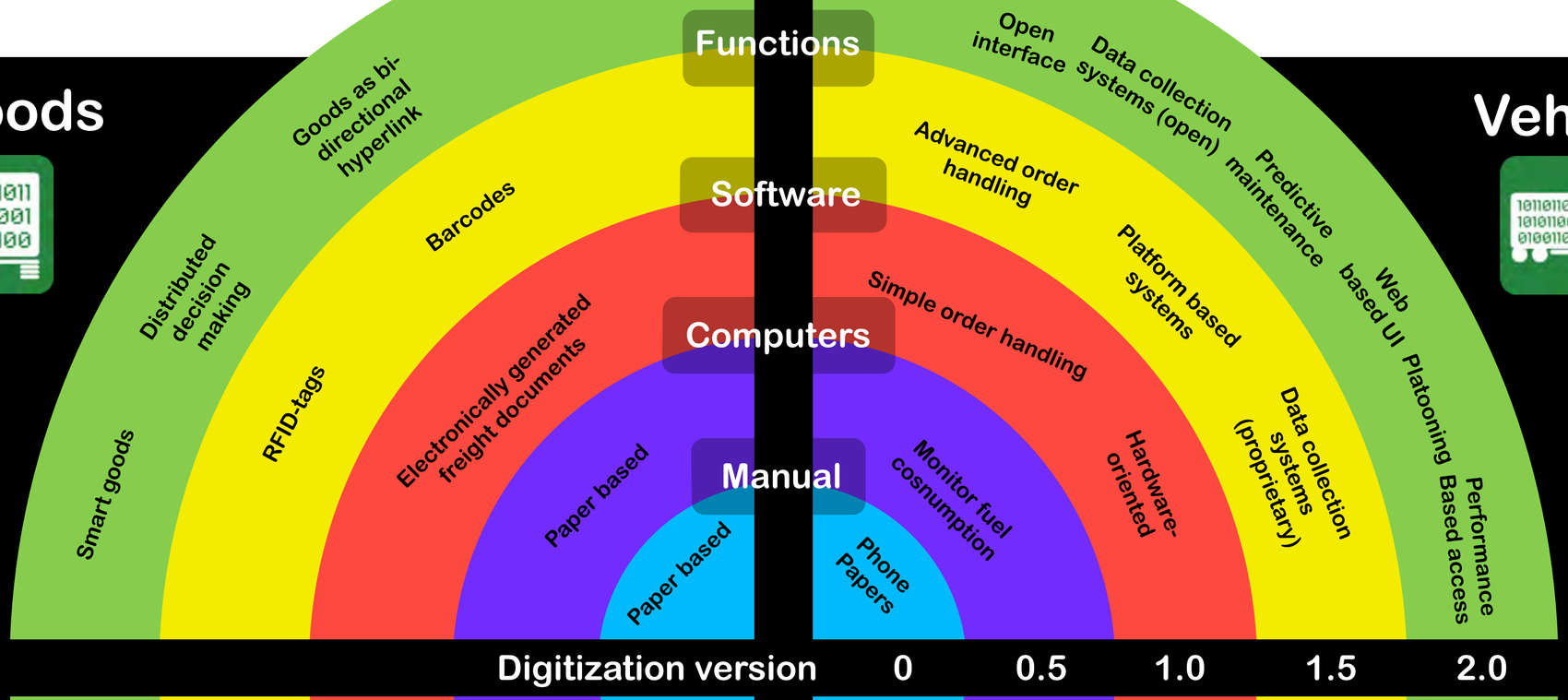
NORTHERN LEAD

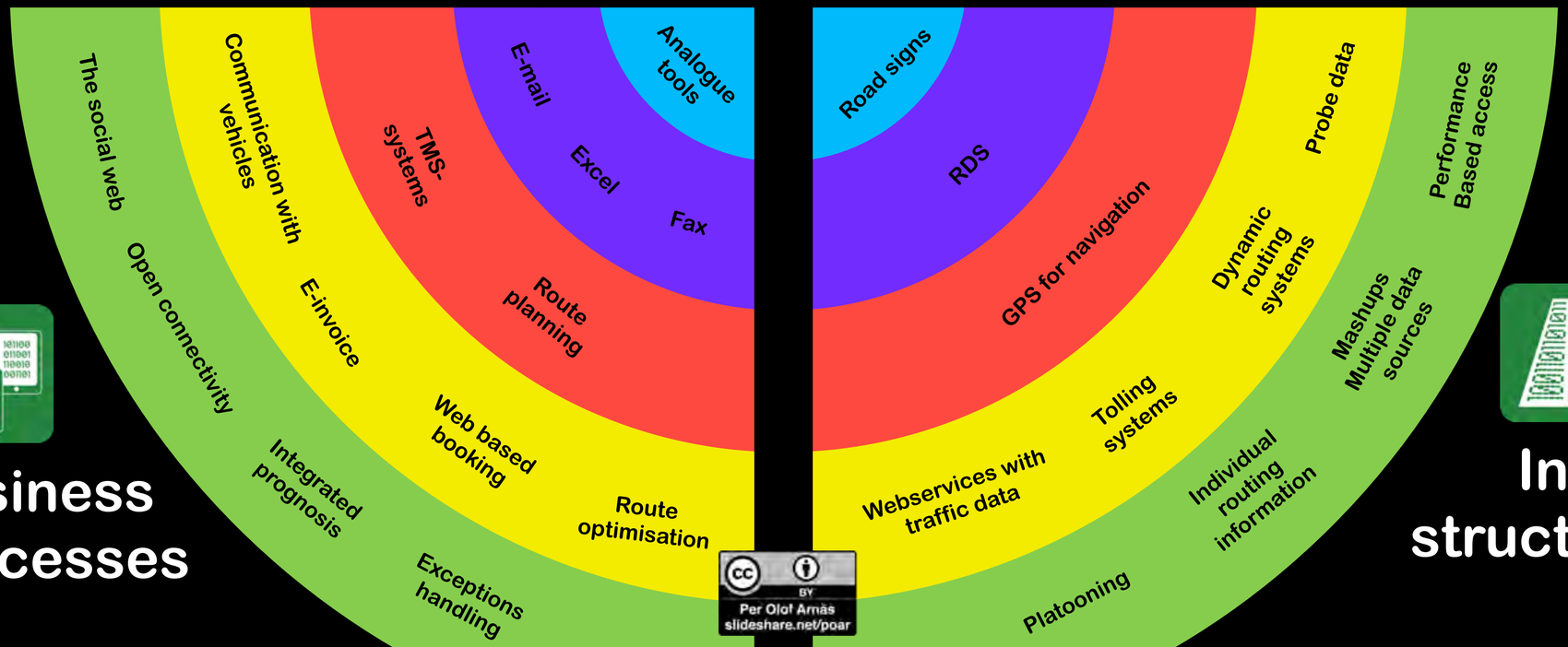
Goods

Barcodes
RFID
Sensors

Vehicle

Order handling
Driver support
Vehicle economics





ERP systems
TMS systems
E-invoices
Cloudbased services

Business processes

Infra-structure

RDS-TMC
Road taxes
Active traffic support

2014-08-26

Time horizons

Strategic

Tactical

Operational

Predictive

Real-time!

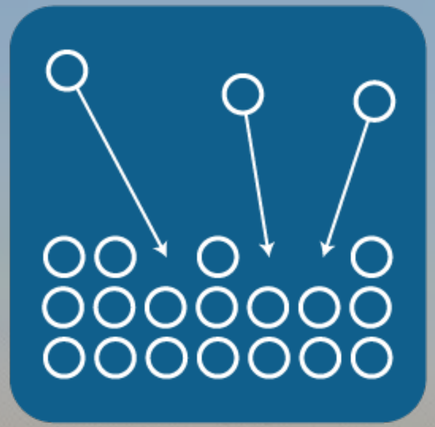
We are approaching this boundary

…and we are starting to move past it!

3 mountaintops to climb…

Real-time data challenges in freight transportation

Collect



Process

Exploit

En la cima! by Alejandro Juárez on Flickr (CC-BY)

Mountaintop #1

Collection of data in real-time

3 data types

Fixed

Historical

Snapshot

En la cima! by Alejandro Juárez on Flickr (CC-BY)

Mountaintop #1

Collection of data in real-time

at least...

5 data domains

Vehicle

Driver

Cargo

Company

Infrastructure/ facility

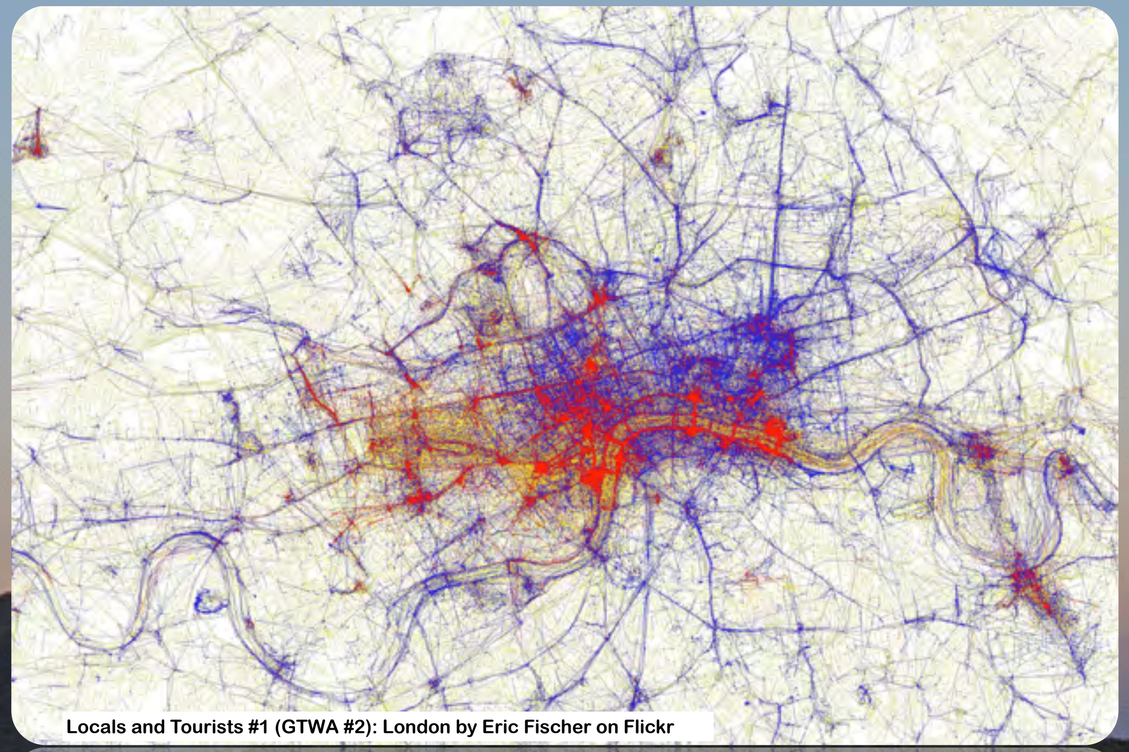
En la cima! by Alejandro Juárez on Flickr (CC-BY)

DATA MATRIX

	Fixed	Historical	Snapshot
Vehicle	Length Weight Width Height Capacity + other PBS-criteria	Emissions Fuel consumption Route	Position Speed Direction
Cargo	Weight Origin Destination Accepted ETA	Temperature + other state variables	Temperature + other state variables
Driver	Education/training	Speed (ISA) Rest/break schedule Traffic behaviour Belt usage Alco lock history	Schedule status (time to next break etc.)
Company	Contracts/ agreements	Previous interactions	Backoffice support
Infrastructure /facility	Map + fixed data layers	Traffic history	Current traffic Queue Availability

Mountaintop #2

Processing of data in real-time



Locals and Tourists #1 (GTWA #2): London by Eric Fischer on Flickr

	Fixed	Historical	Snapshot
Vehicle	Length Weight Width Height Capacity + other PBS-criteria	Emissions Fuel consumption Route	Position Speed Direction
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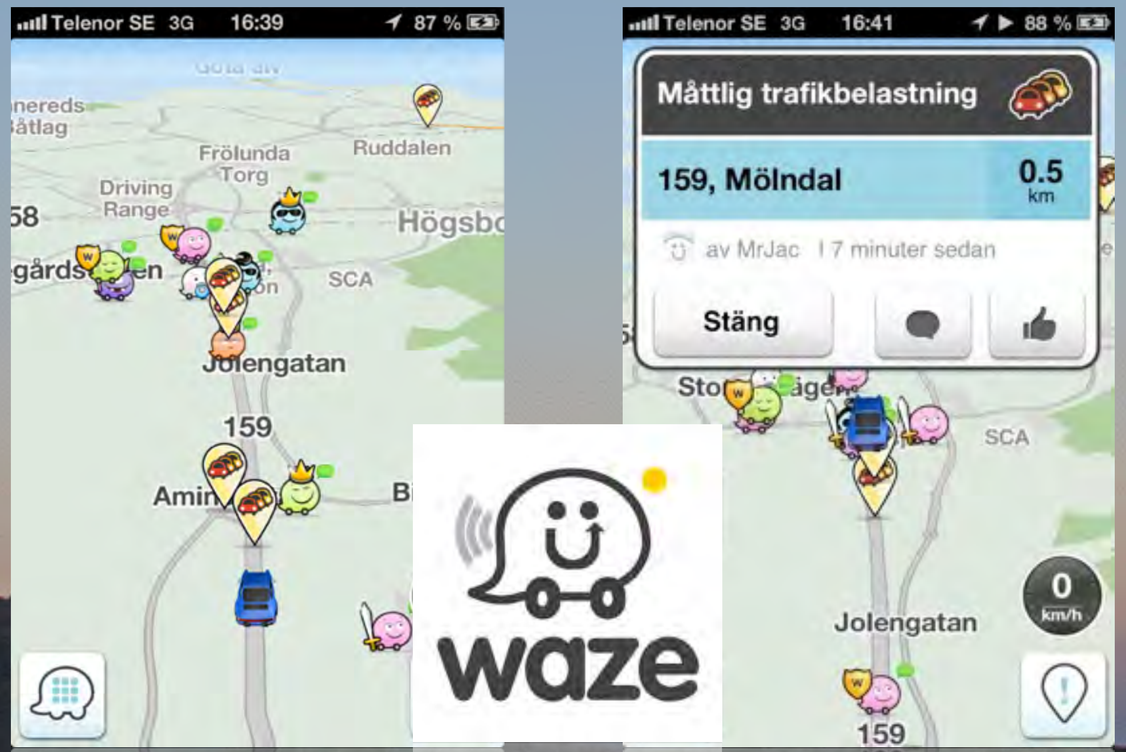
En la cima! by Alejandro Juárez on Flickr (CC-BY)

Mountaintop #2

Processing of data in real-time



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En la cima! by Alejandro Juárez on Flickr (CC-BY)

Mountaintop #3

Exploiting data in real-time

Connected. 362/365 by AndYaDontStop on Flickr (CC-BY)

Lisa for I/O Keynote by Max Braun on Flickr (CC-BY)

Fulham-Manchester United 24-02-2007 by vuhlser on Flickr (CC-BY)

	Fixed	Historical	Snapshot
Vehicle	Length Weight Width Height Capacity + other PBS-criteria	Emissions Fuel consumption Route	Position Speed Direction
Cargo	Weight Origin Destination Accepted ETA	Temperature + other state variables	Temperature + other state variables
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Infrastructure/ facility	Map + fixed data layers	Traffic history	Current traffic Queue Availability

En la cima! by Alejandro Juárez on Flickr (CC-BY)

Mountaintop #3
Exploiting data in real-time

Boeing-KC-97 Stratotanker by x-ray delta one on Flickr (CC-BY)

	Fixed	Historical	Snapshot
Vehicle	Length Weight Width Height Capacity + other PBS-criteria	Emissions Fuel consumption Route	Position Speed Direction
Cargo	Weight Origin Destination Accepted ETA	Temperature + other state variables	Temperature + other state variables
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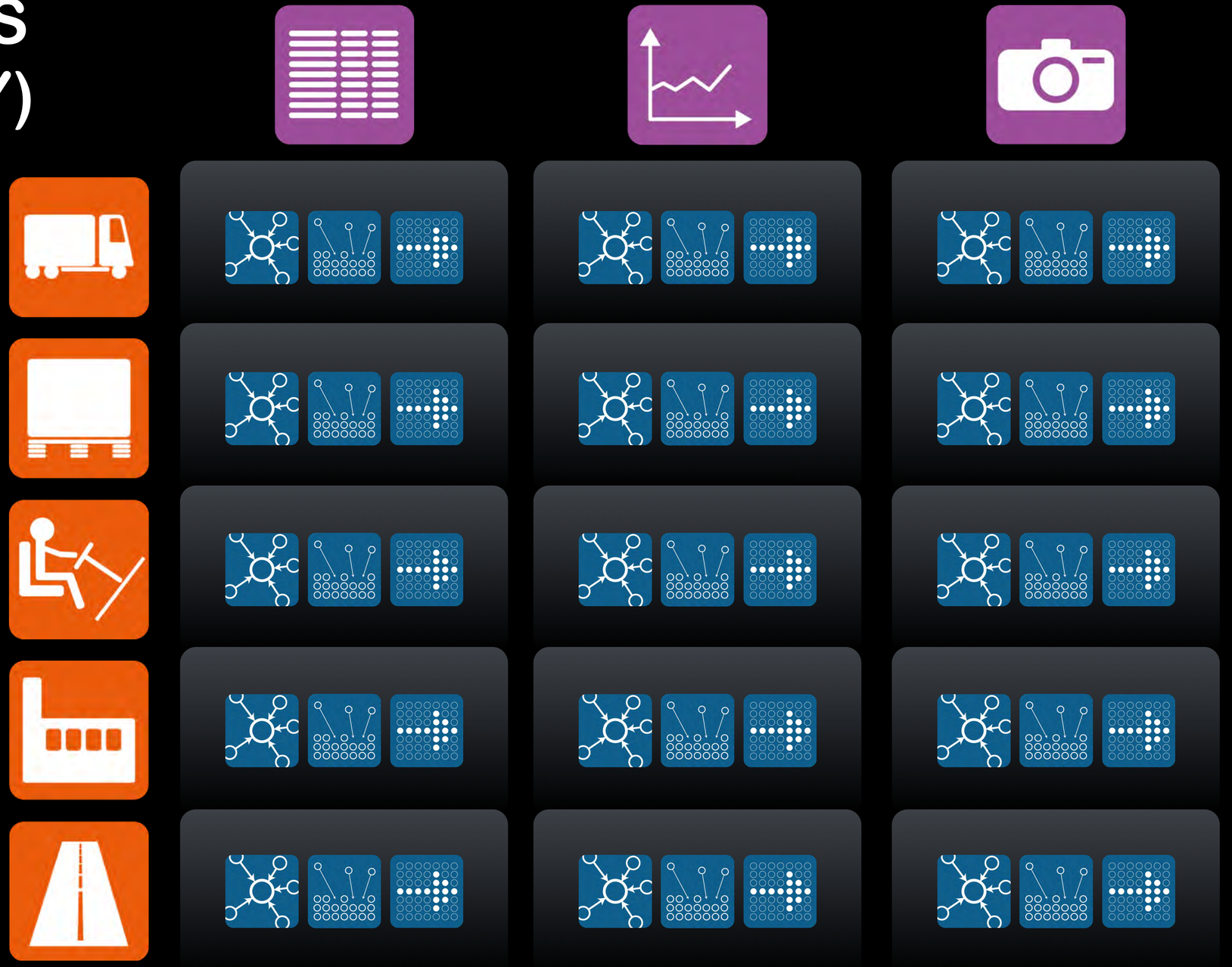
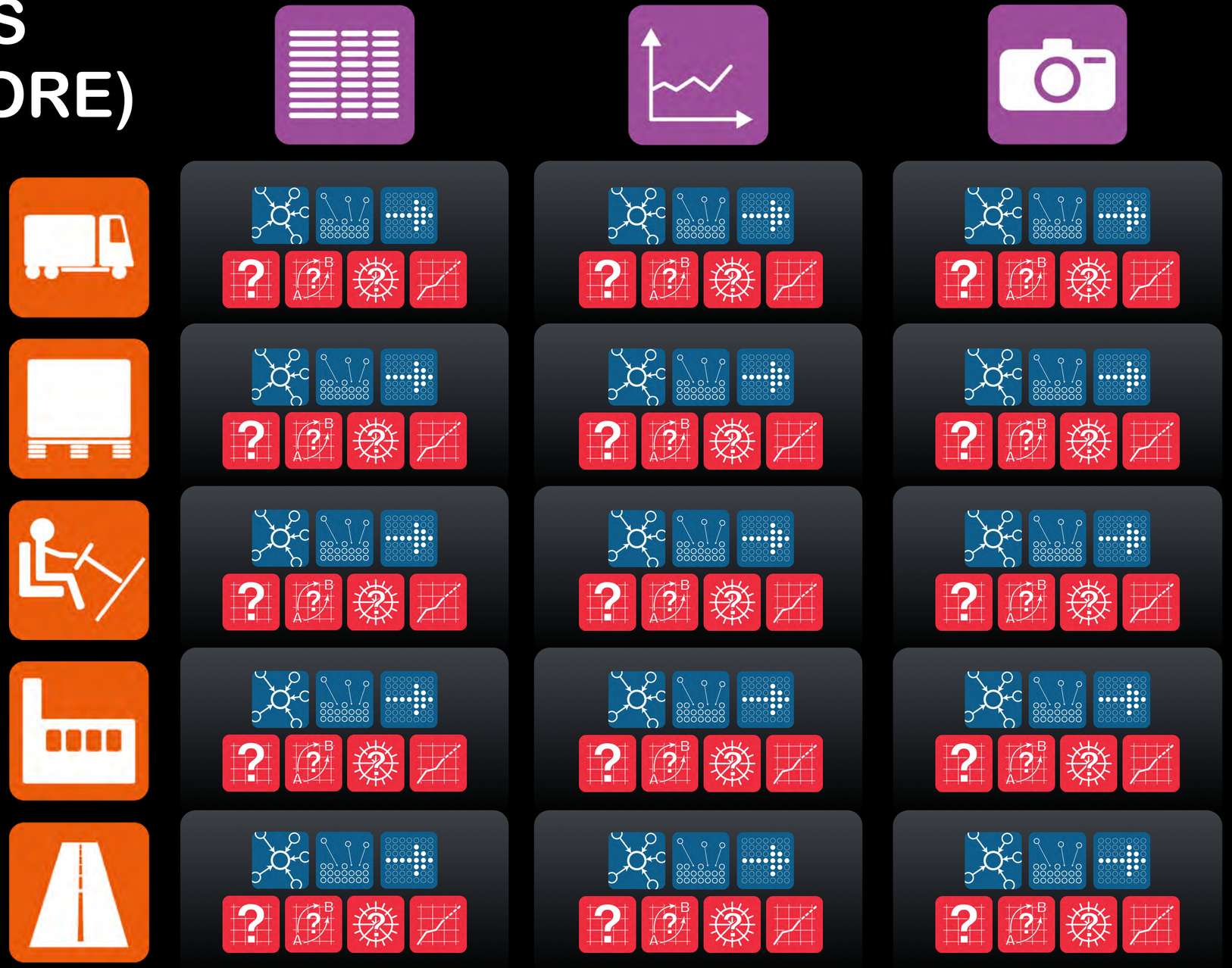
En la cima! by Alejandro Juárez on Flickr (CC-BY)

CASES (MANY)



CASES (MANY MORE)



Examples of applications in freight

(Waller and Fawcett, 2013)

Inventory management

Real-time capacity availability

Human resources

Reduction in driver turnover, driver assignment, using sentiment data analysis

Forecasting

Time of delivery, factoring in weather, driver characteristics, time of day and date

Transportation management

Optimal routing, taking into account weather, traffic congestion, and driver characteristics

Waller, M. A. and Fawcett, S. E. (2013), Data Science, Predictive Analytics, and Big Data: A Revolution That Will Transform Supply Chain Design and Management. JOURNAL OF BUSINESS LOGISTICS, 34: 77–84

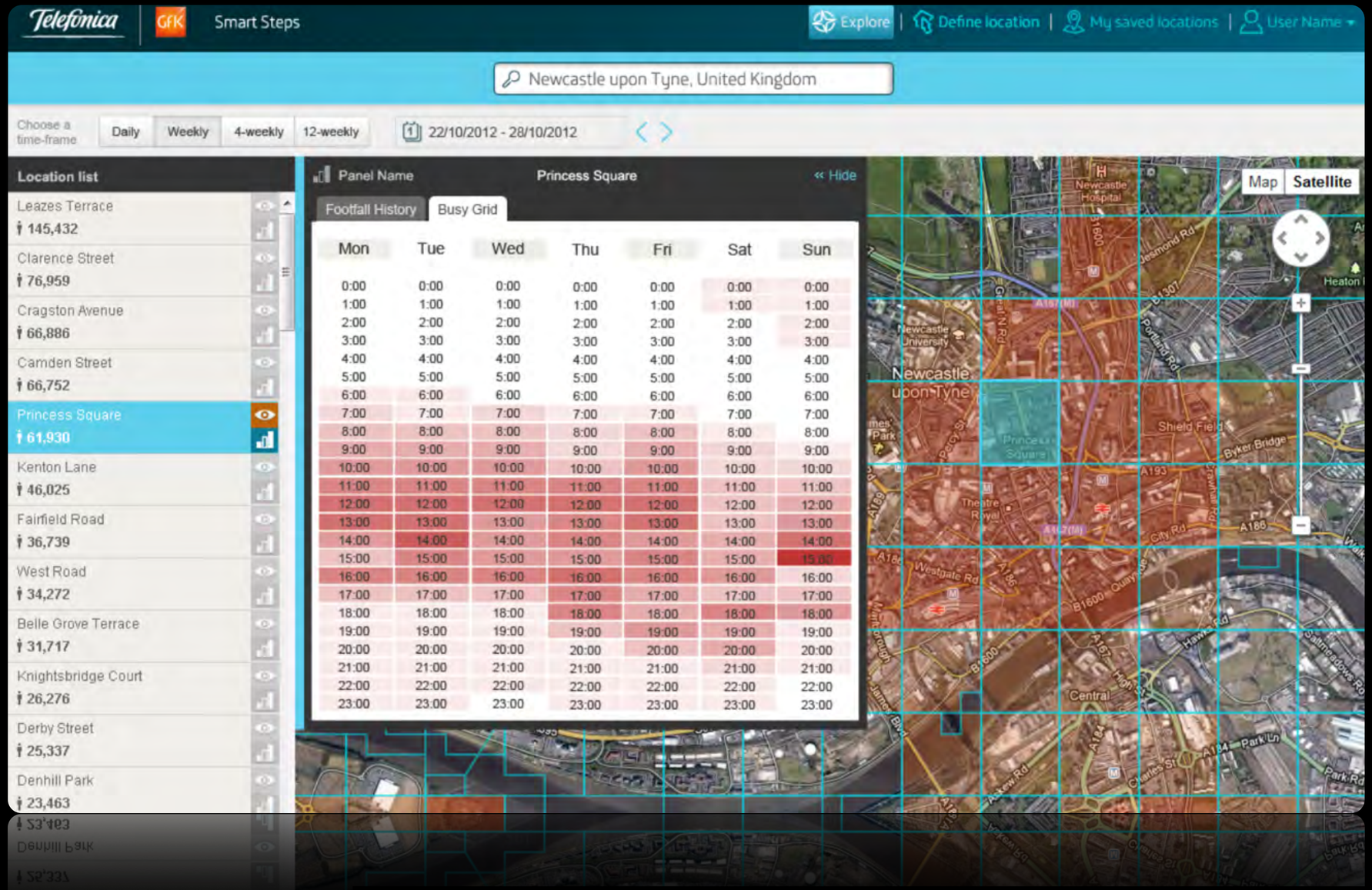
Manage complex systems

Image from: http://www.as-coa.org/watchlisten/ascoa-visits-rios-operations-center

Predict future events

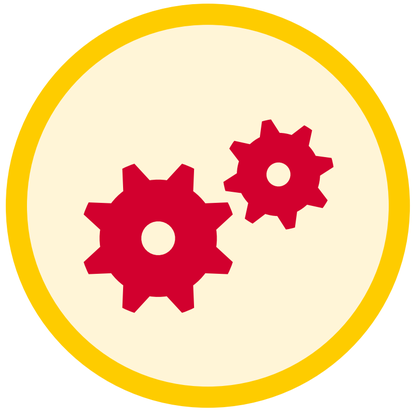
Avoid unpleasant surprises

Vizualisation



http://blog.digital.telefonica.com/?press-release=telefonica-dynamic-insights-launches-smart-steps-in-the-uk

Operational Efficiency



Use data to:

- Increase level of transparency
- Optimize resource consumption
- Improve process quality and performance

Customer Experience

Exploit data to:

- Increase customer loyalty and retention
- Perform precise customer segmentation and targeting
- Optimize customer interaction and service

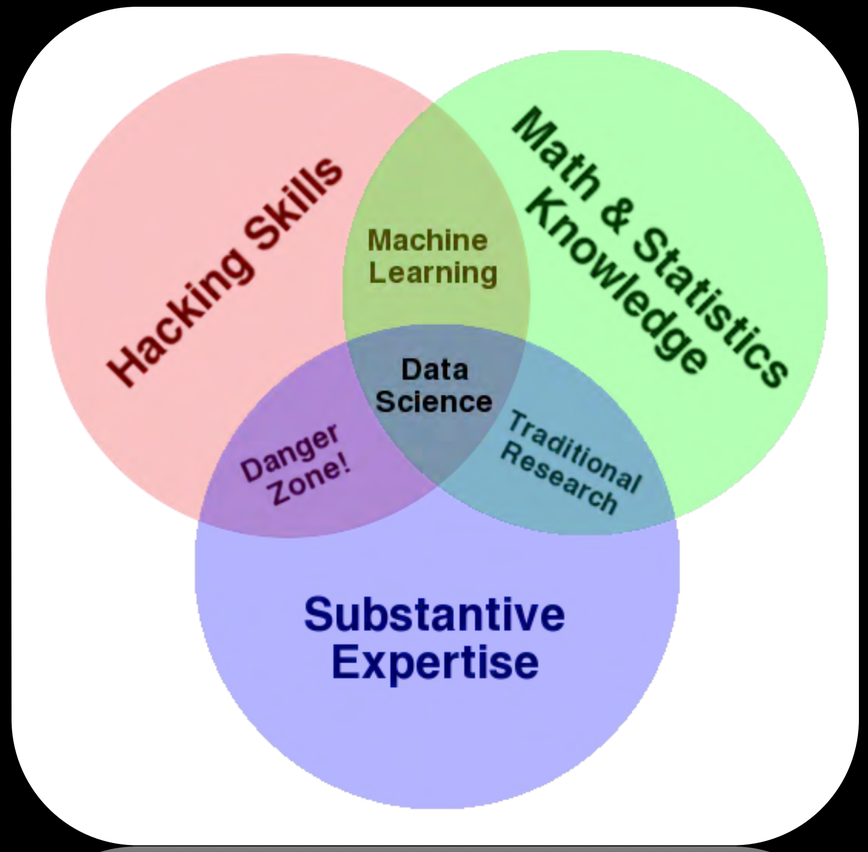
New Business Models

Capitalize on data by:

- Expanding revenue streams from existing products
- Creating new revenue streams from entirely new (data) products

DHL 2013: ”Big Data in Logistics”

Data scientists - the new superstars



Domain knowledge critical!

"Data Science Venn Diagram" by Drew Conway - Own work. Licensed under Creative Commons Attribution-Share Alike 3.0 via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:Data_Science_Venn_Diagram.png#mediaviewer/File:Data_Science_Venn_Diagram.png

See for instance: Waller, M. A. and Fawcett, S. E. (2013), Data Science, Predictive Analytics, and Big Data: A Revolution That Will Transform Supply Chain Design and Management. JOURNAL OF BUSINESS LOGISTICS, 34: 77–84

Challenges

Cross-disciplinary

Cross-industries

Cross-borders

The Challenger by Martín Vinacur on Flickr (CC-BY)

Big data in freight transport

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Slides on slideshare.net/poar

Film by Foursquare. Google: checkins foursquare