Standards for exchanging business data

7.9.2020, ELINA KOSKENTALO, XBRL FINLAND

About me

- Career:
  - 2016-> self employed consultant on electronic business domain / ICT technologies
  - 2011-> project manager of XBRL Finland
  - 2009-2016 Adviser at the Finnish Information Society Development Centre
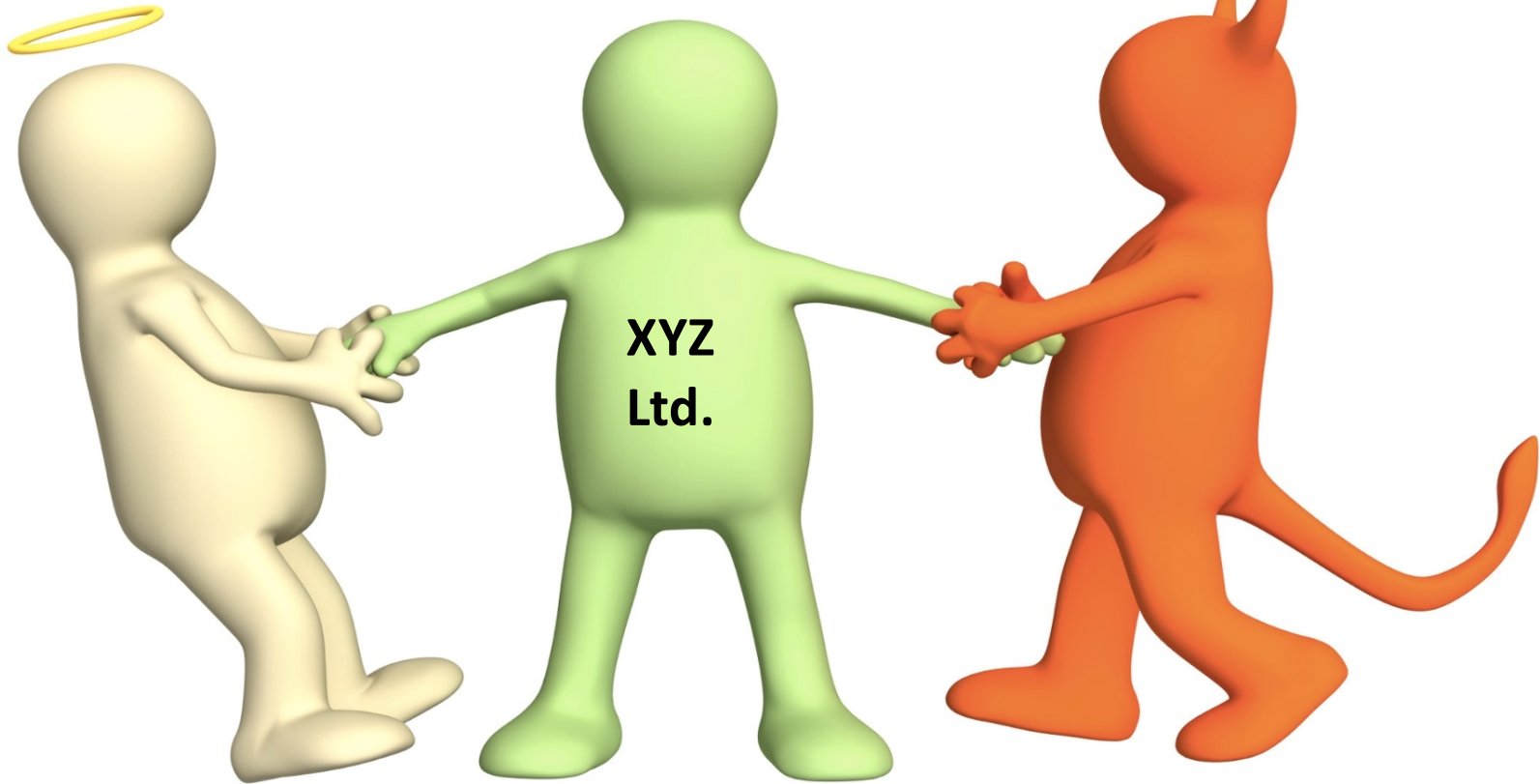- Involvement in standardization:
  - ISO/TC 295 Audit Data Services
  - UN/CEFACT: Accounting and Audit Reference Data Model
  - CEN: WS Data Point Modelling
- Education:
  - M. Sc. Communications Technologies, Helsinki University of Technology (Aalto)

Letting go of paper with stuctural data

- Processing cost savings for all parties involved

- Improved customer service and better customer retention

- Environmental benefits

- In Finland the Real-Time Economy (RTE) project (2006-2012) started the movement that has then continued as a chain of projects (TALTIO, eReceipt, NSG) under the RTE umbrella.

  Video: https://youtu.be/eMDJAwHg5qM

Standardization in the context of business data

Is to have a common language and understanding of data, this involves the semantics of the data; meaning of the data, its representation, its context and syntax
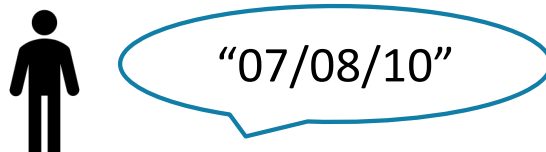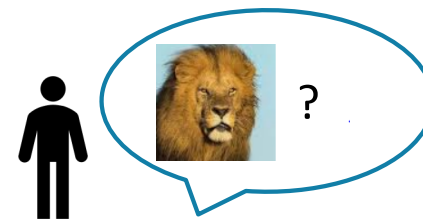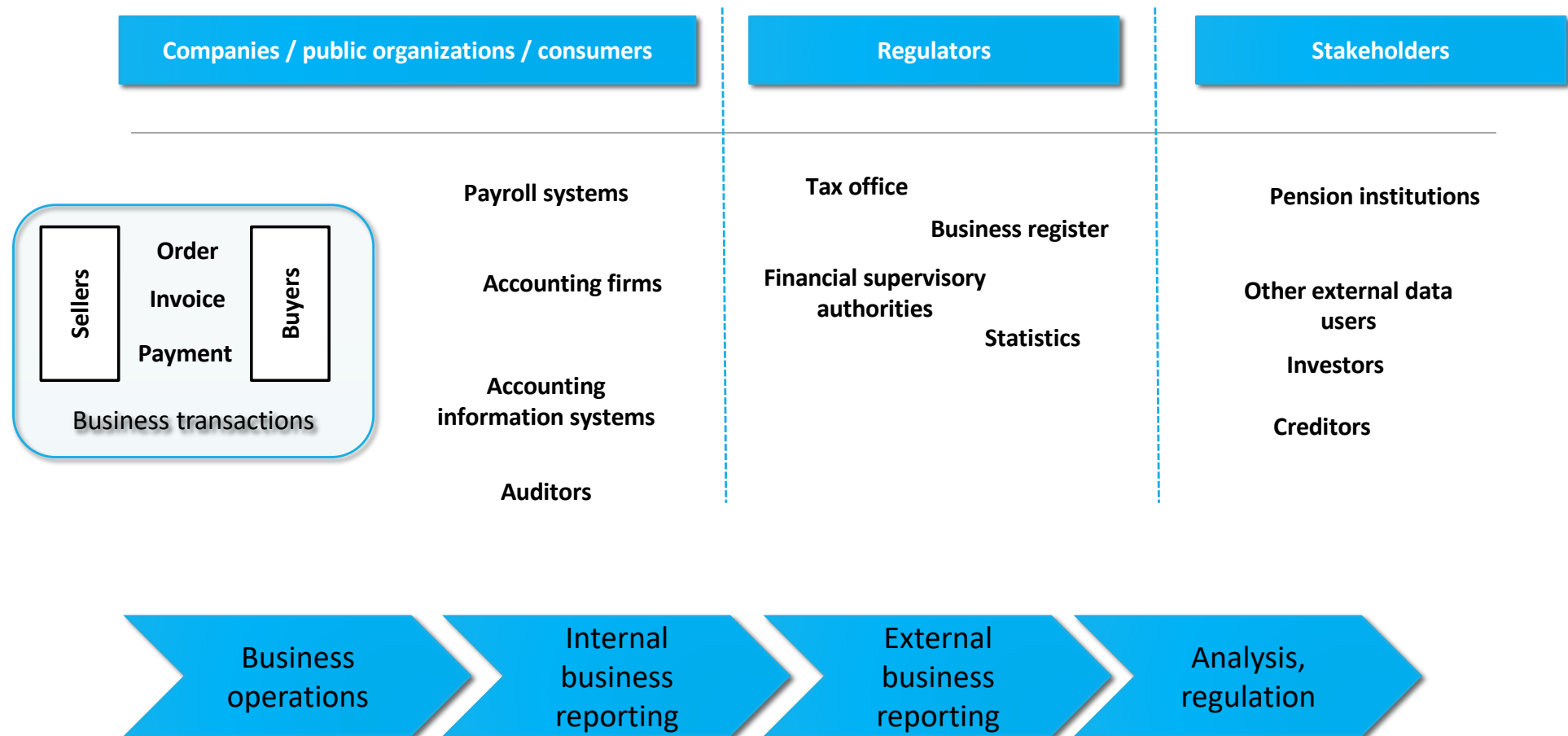
Why do we need standards?

- Streamline and automate business processes

- Quality data

- Real-time data

- Business intelligence

- Reduce manual human intervention

- Flexible system architecture and interoperability

Financial value chain and RTE

Companies / public organizations / consumers	Regulators	Stakeholders

Business transactions
- Sellers
- Order
- Invoice
- Payment
- Buyers

Payroll systems

Accounting firms

Accounting information systems

Auditors

Tax office

Business register

Financial supervisory authorities

Statistics

Pension institutions

Other external data users

Investors

Creditors

Business operations → Internal business reporting → External business reporting → Analysis, regulation

Source: Esko Penttien Aalto university

Building the Real-time Economy

Financial value chain and RTE

Companies / public organizations / consumers   **Regulators**   **Stakeholders**

INCOME REGISTER

Payroll   ...ion institutions

Business register

Accounting firms   Financial supervisory authorities   Other external data users Investors

E-INVOICE DEVELOPMENT

XBRL GL   Statistics

E-RECEIPT   **SBR / XBRL**   Creditors

AUDIT DATA FILE

Business transactions   Auditors

Business operations → Internal business reporting → External business reporting → Analysis, regulation

XBRL Global Ledger (GL)   XBRL Financial Reporting (FR)

Source: Esko Penttien Aalto university

Adoption of structural business documents in Finland

- 1992: structural bank account statements with local format (TITO), nowadays moving towards the ISO2022 messages

- 1999: first eInvoices transmitted
  - Multiple local and international formats used that causes challenges
  - 2020: law allowing companies to demand eInvoice
  - Current adoption rate B2B up to 90% (lower for smaller companies)
  - New EU regulation enforces the adoption of the UBL invoice
  - eInvoices are transmitted trough an operator network (4-corner model)

- 2019 -> Adoption of electronic receipt (finnish XML-based format "Finvoice" ongoing)

Other RTE-related enabling technologies

- eOrders: Adoption along the Nordic smart government program

- Blockchain

- AI

- The National Interoperability Platform (YTI-project)
  - Common data dictionaries, code lists and models

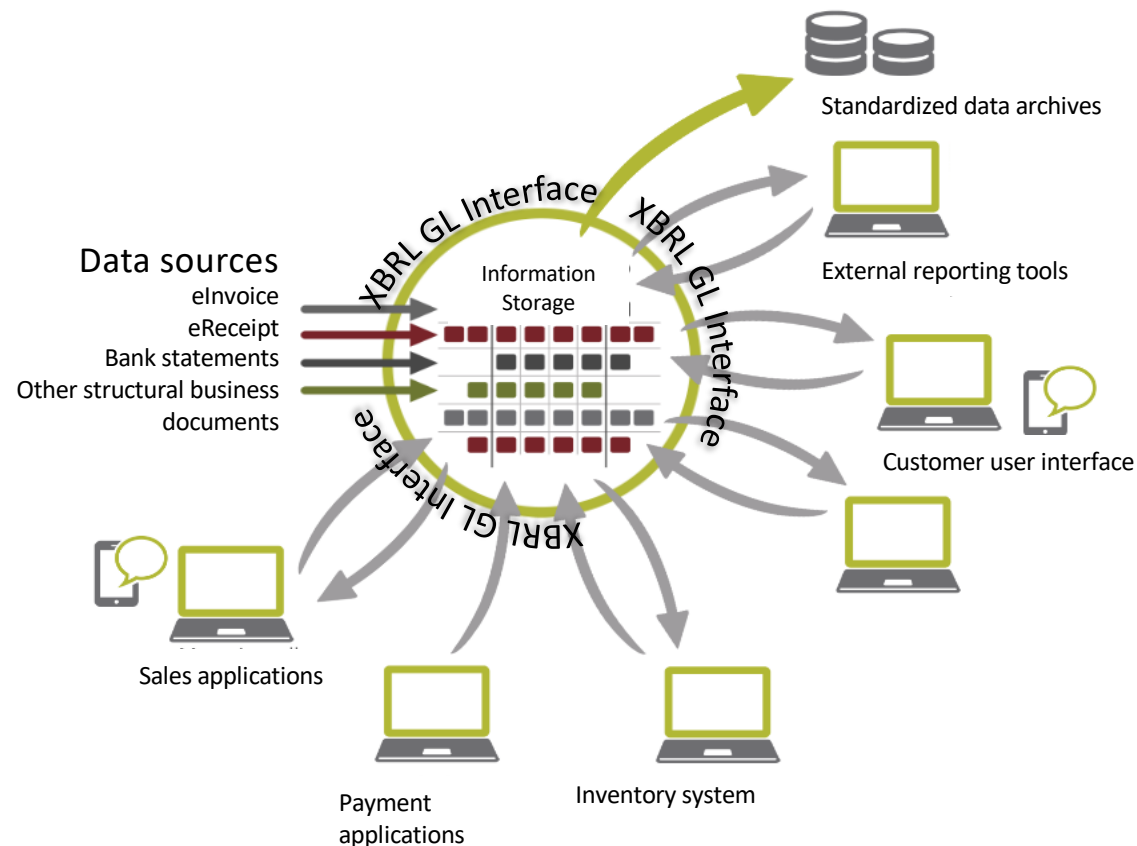# Structural financial reporting in Finland

Financial reporting in XBRL

- Eralier already full adoption of XBRL reporting for banks and insurance oraganizations due to the EU regulation

- 2019:
  - Voluntary inline XBRL based financial statement reporting for limited companies

- 2020:
  - Mandatory XBRL based reporting for municipalities (and regions)
  - Voluntary inline XBRL based financial statement reporting for foundations

- 2021:
  - Mandatory Inline XBRL based IFRS filings to all listed companies (ESEF mandate)

The missing piece: business system interoperability

XBRL GL as an enabler for new kind of interoperable ecosystems

Standardized data archives

External reporting tools

Customer user interface

Data sources
eInvoice
eReceipt
Bank statements
Other structural business documents

XBRL GL Interface

Information Storage

XBRL GL Interface

XBRL GL Interface

Sales applications

Payment applications

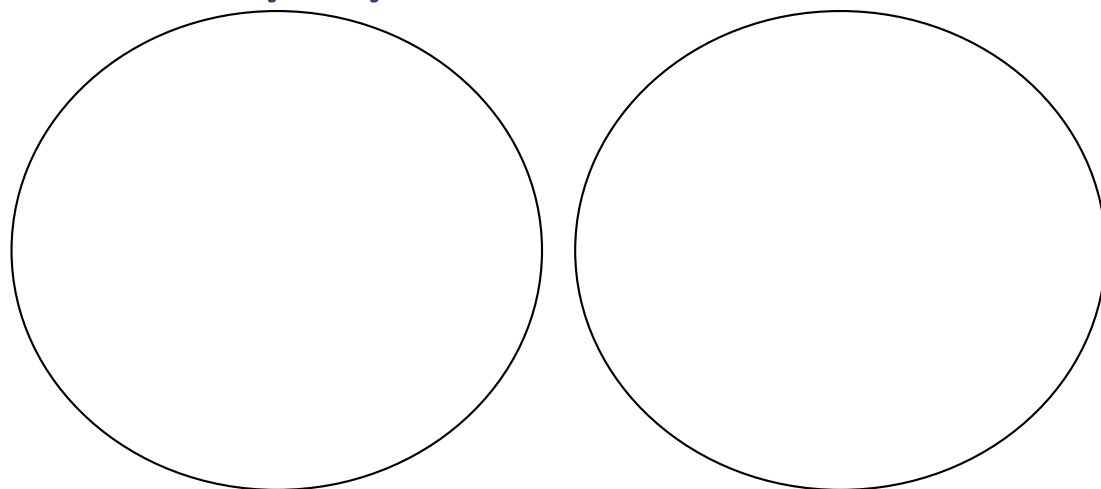Inventory system

What is XBRL GL?

Purpose
- Vision ("a piece of business data")
- Taxonomy framework
- Operations, management, external reporting
- Not limited to "accounting", "financial", quantitative

Building blocks
- *Accounts*
- Identifier (parties, agents)
- Measurable
- Jobs
- Summarized reporting concepts
- Others

Every System as XBRL

Across language
Across data definitions
Across file formats

| System 1	System 2	System 3
Account#	勘定科目番号	Identificador de la Cuenta
Description	勘定科目説明文	Descripción Principal de la Cuenta
Amount	金額	Monto Monetario
PostDate	転記日付	Fecha de Asignación/Ingreso

Happening now in Finland

Nordic Smart Government 3.0 (2018-2020)

- Aims to create an integrated and interoperable Nordic countries
  - Sweden, Norway, Denmark, Iceland and Finland

- Funded by the Nordic Innovation / Nordic Council of Ministers

- Areas of work
  ◦ Standardization and adoption of electronic business documents
  ◦ Automation in information exchange and administrative processes to make life easier for businesses
  ◦ Information exchange, accessibility and security

The Nordic Smart Government 3.0 - vision
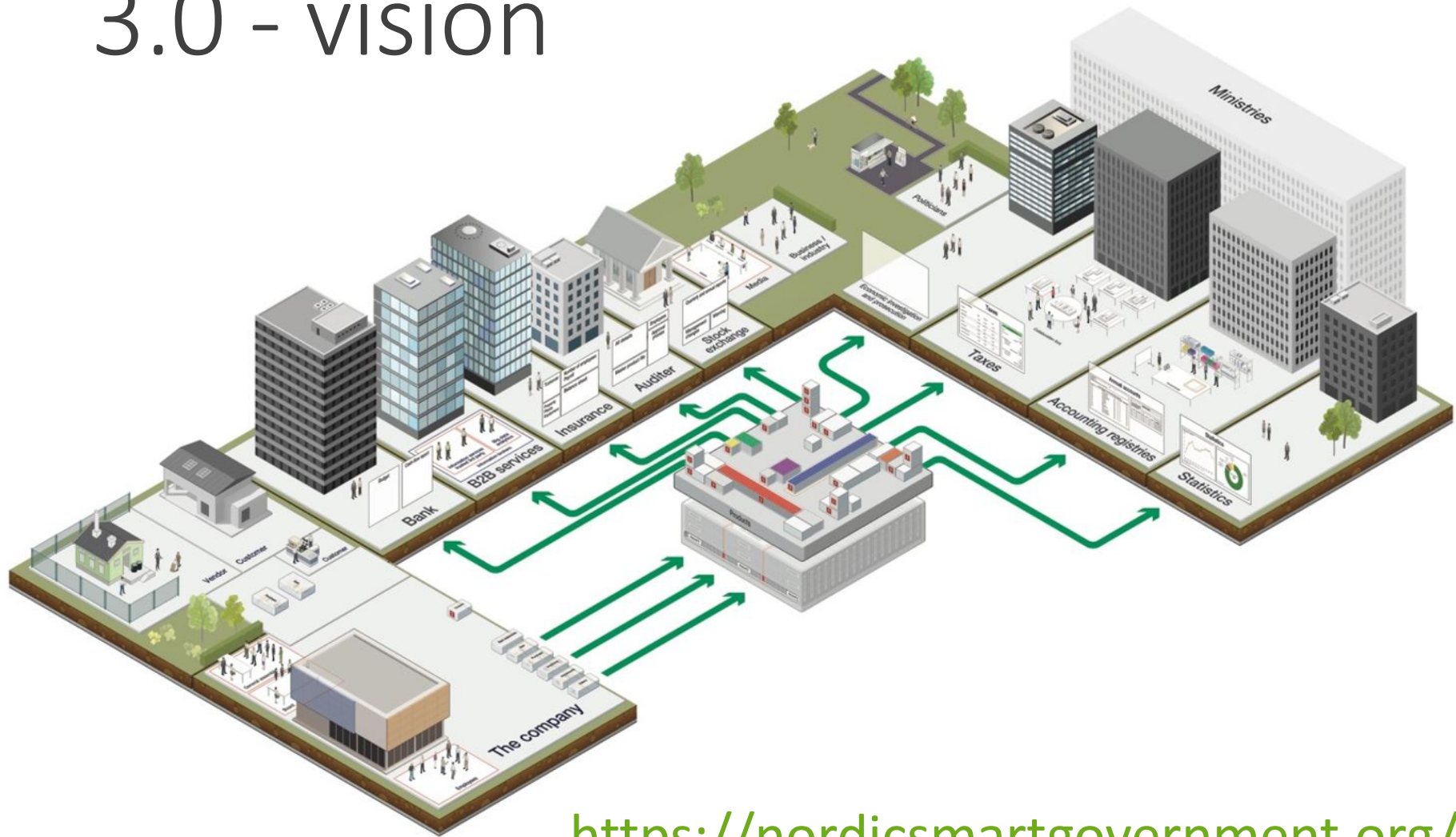
Future roadmap in the Nordics

- "…September 1st, the Nordic Ministers of Business approved the Roadmap for Nordic Smart Government (NSG)."

- The roadmap defines the common Nordic and national steps that need to be taken in order to realize the NSG vision

- By 2027 the potential value across the Nordics is estimated to be around 14 billion EUR annually (EY 2017)

- Please find the roadmap introduction here and full NSG 3.0 list of deliverables documentation here

NSG reference implementation and showroom

- Reference implementation
  - A sandbox data storage that simulates a real life business/accounting system
  - Anyone can interact with the sandbox via the standard APIs developed in the project (or the showroom apps)
  - Read more here

- Showroom
  - A collection of small business system simulations where you can "play to do business"
  - The apps are producing and handling structural business documents and communicating with the sandbox
  - Demonstration of the power of real-time structural data

Other follow-up projects

- Income Register (Tax administration)
- Real-time economy ecosystems and eReceipt (Teknologiateollisuus)
- Common data management / Yhteinen tiedon hallinta, YTI (Ministry of Finance)
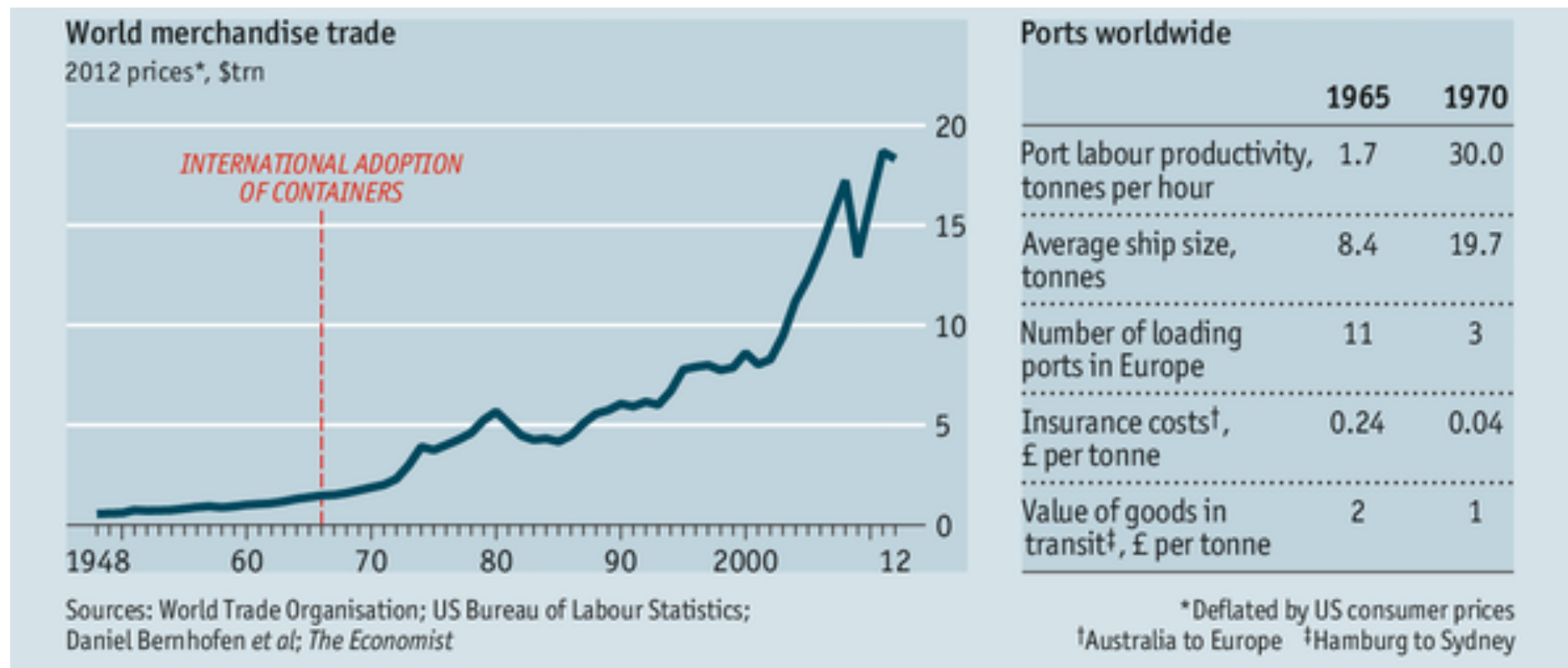- Mandates on eInvoicing (Ministry of Finance)
- Reporting 3.0. (Estonia)

Possibilities and challenges in adoption of electronic business documets

Standards boost business

Impact of standard containers to world trade

World merchandise trade
2012 prices*, $trn

INTERNATIONAL ADOPTION OF CONTAINERS

Sources: World Trade Organisation; US Bureau of Labour Statistics; Daniel Bernhofen et al; The Economist

Ports worldwide

	1965	1970
Port labour productivity, tonnes per hour	1.7	30.0
Average ship size, tonnes	8.4	19.7
Number of loading ports in Europe	11	3
Insurance costs†, £ per tonne	0.24	0.04
Value of goods in transit‡, £ per tonne	2	1

*Deflated by US consumer prices †Australia to Europe ‡Hamburg to Sydney

Challenges

- Adoption of electronic business documents is not complete
  - requires dedication and action from the government

- Data quality and completeness issues in eInvoicing

- Resistance to change

- Data security and identification

- Support from software vendors

Thank you!

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