

The Merger of Energy, Mobility and Data.

The growing need for cooperative governance
for future infrastructures



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Next Generation Infrastructures

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- Associate professor Governance of Infrastructures
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 - Research: governance of infrastructures, in particular public transport
 - Education: managing complex projects, in particular energy and transport
- Scientific director
 - Next generation Infrastructures
 - Cooperation between 6 Dutch network managers
 - ProRail **DB Netz**
 - Rijkswaterstaat **Wasserstraßen, Schifffahrt, Straßenbau** of **BmVI**
 - Vitens **Hessenwasser** for most of the Netherlands
 - Alliander **e-netz** for most of the Netherlands
 - Port of Rotterdam **Hafen Hamburg**
 - Airport Schiphol **Frankfurt Flughafen**

Agenda

Wieder Panne auf der Strecke München-Berlin

„Bahn-Fiasko“ und „ICE-Desaster“: Kunden verlieren die Geduld

Aktualisiert: 12.12.17 - 11:41

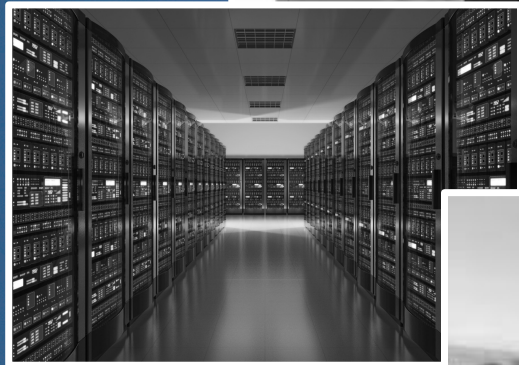
Peinliche Pannen für die Deutsche Bahn: Auf der Tempo-Trasse zwischen München und Berlin läuft es ganz und gar nicht rund.

München - Die Pannenserie auf der neuen Hochgeschwindigkeitsstrecke München-Berlin setzt sich auch am Dienstag fort. Der ICE701, der am Morgen von der Bundes- in die Landeshauptstadt fahren sollte, wurde ersatzlos gestrichen. Eigentlich hätte er um 7.38 Uhr am Berliner Hauptbahnhof starten sollen. Grund für den Ausfall war eine technische Störung am Zug, wie eine Sprecherin der Deutschen Bahn der dpa erklärte.

Eine Kundin ärgerte sich auf Twitter, dass sie erst kurz vor der Abfahrt am Gleis davon erfuhr:


Data, energy and mobility narrative

... with substantial consequences

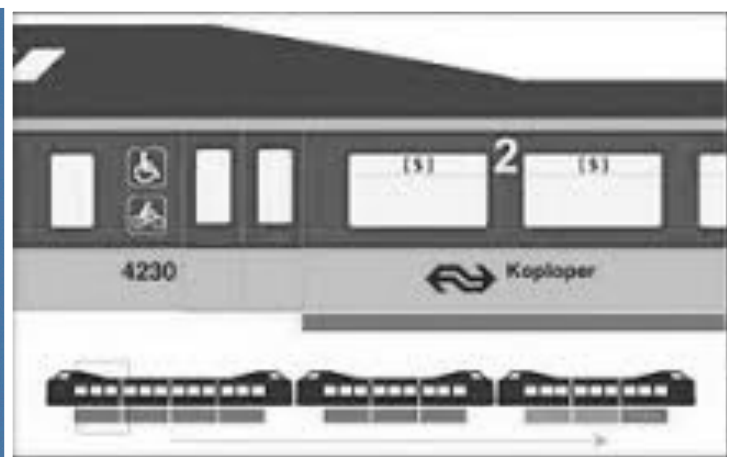




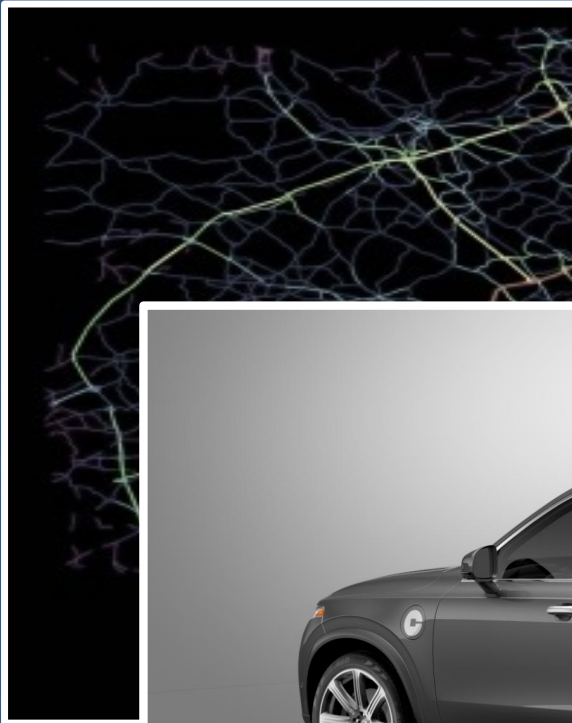
To electric,
flexible and
real-time



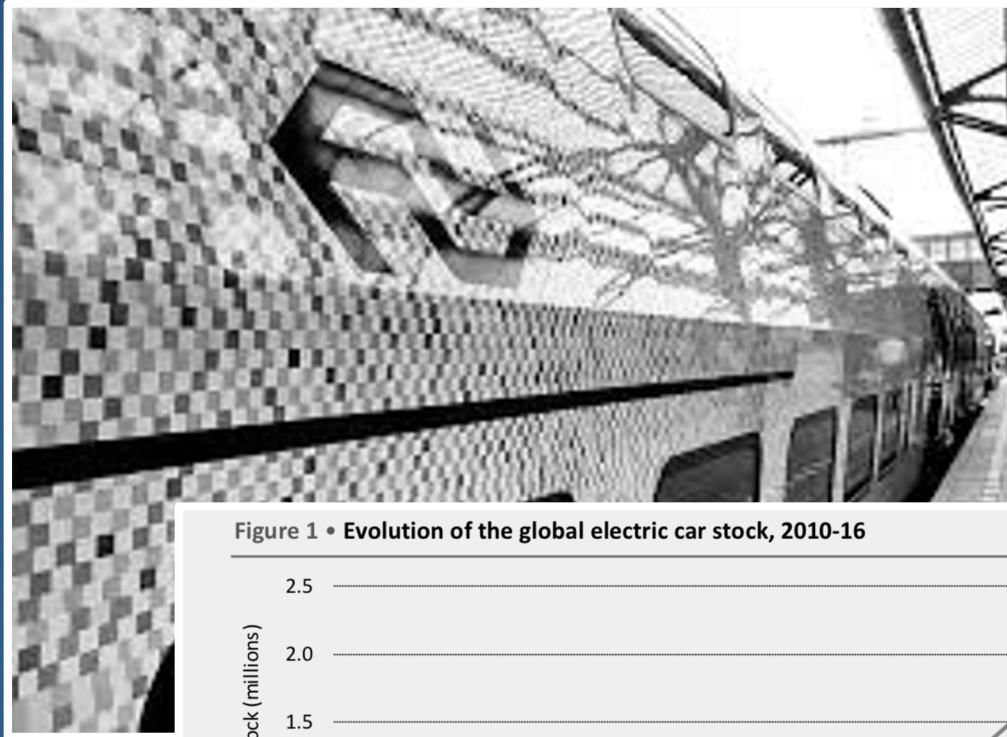
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Mobility and data



Mobility and energy



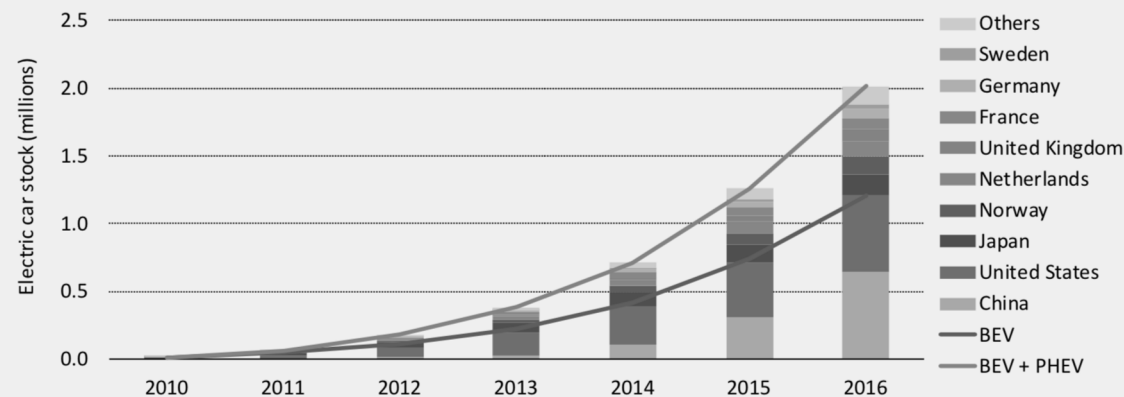
Bestuursakkoord
Zero Emissie
Regionaal Openbaar
Vervoer Per Bus



MRDH
METROPOLREGIO
ROTTERDAM DEN HAAG

VCA
Vervoerregio
Amsterdam

Figure 1 • Evolution of the global electric car stock, 2010-16

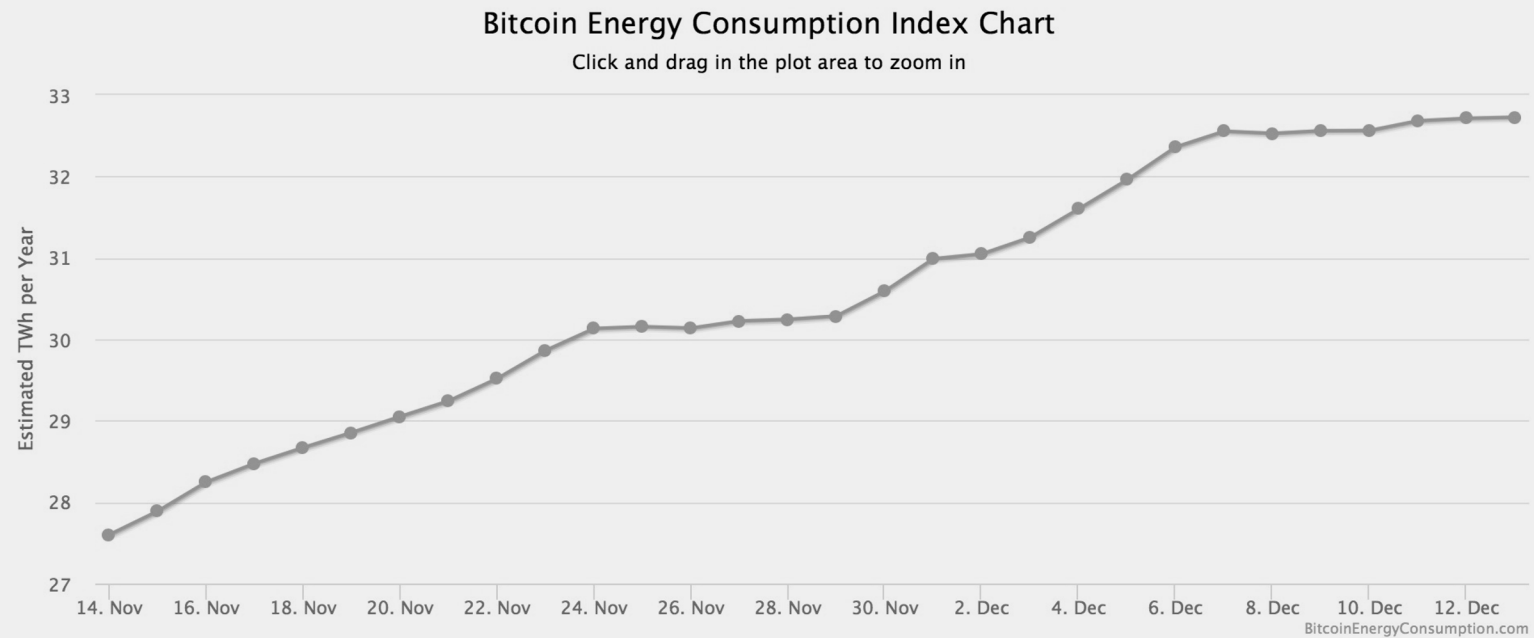


Notes: The electric car stock shown here is primarily estimated on the basis of cumulative sales since 2005. When available, stock numbers from official national statistics have been used, provided good consistency with sales evolutions.

Sources: IEA analysis based on EVI country submissions, complemented by EAFO (2017a), IHS Polk (2016), MarkLines (2017), ACEA (2017a, 2017b) and EEA (2017).

Data and energy

Bitcoin Energy Consumption Index



Data, mobility and energy: the promiss



Problem 1

Separation institutionalized

Language

- Institutions
 - Regulation
 - Ministries
 - Agendas
- Academy
 - Disciplinary
 - Funding
 - Incentives
- Technologies
- Markets
- Sectors

FIIR-Lex

Regulation (EC) No 45/2001 of the European Parliament and of the Council of 18 December 2000 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data

OJ L 8, 12.1.2001, p. 1-22 (ES, DA, DE, EL, EN, FR, IT, NL, PT, FI, SV)
This document has been published in a special edition(s) (CS, ET, LV, LT, HU, MT, PL, SK, SL, BG, RO, HR)

Direct text access:

Author: European Parliament, Council of the European Union
Date of document: 18/12/2000

CELEX number: 32001R0045
In force
Form: Regulation
Latest consolidated version: 02001R0045-20010201

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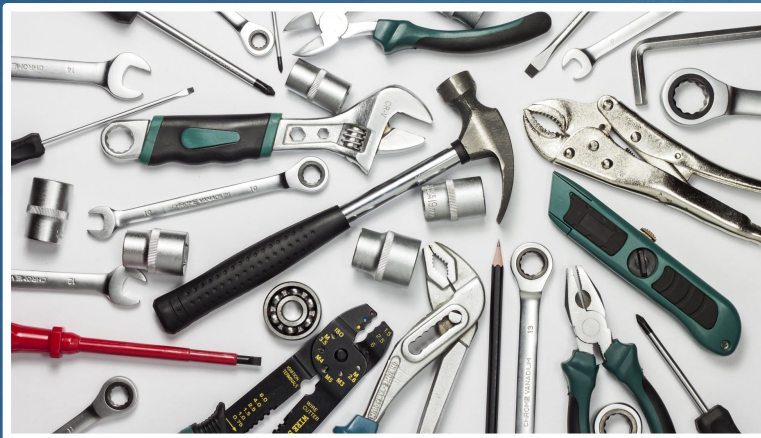


Problem 2:

Linking silo's increases complexity

Complexity parts and interactions and control				
Physical process	Hydrogen	Physical	Local	Single value
Interaction within a dedication system	Fuel cell			
Interaction with a physical environment	In vehicle			
Interaction with operational environment	On road			
Interaction with social environment	In society	Social	Global	Multiple value

Problem 3: The silo's are deep



Federal Ministry
for Digital
and Transport



Way forward to a promising niche 1

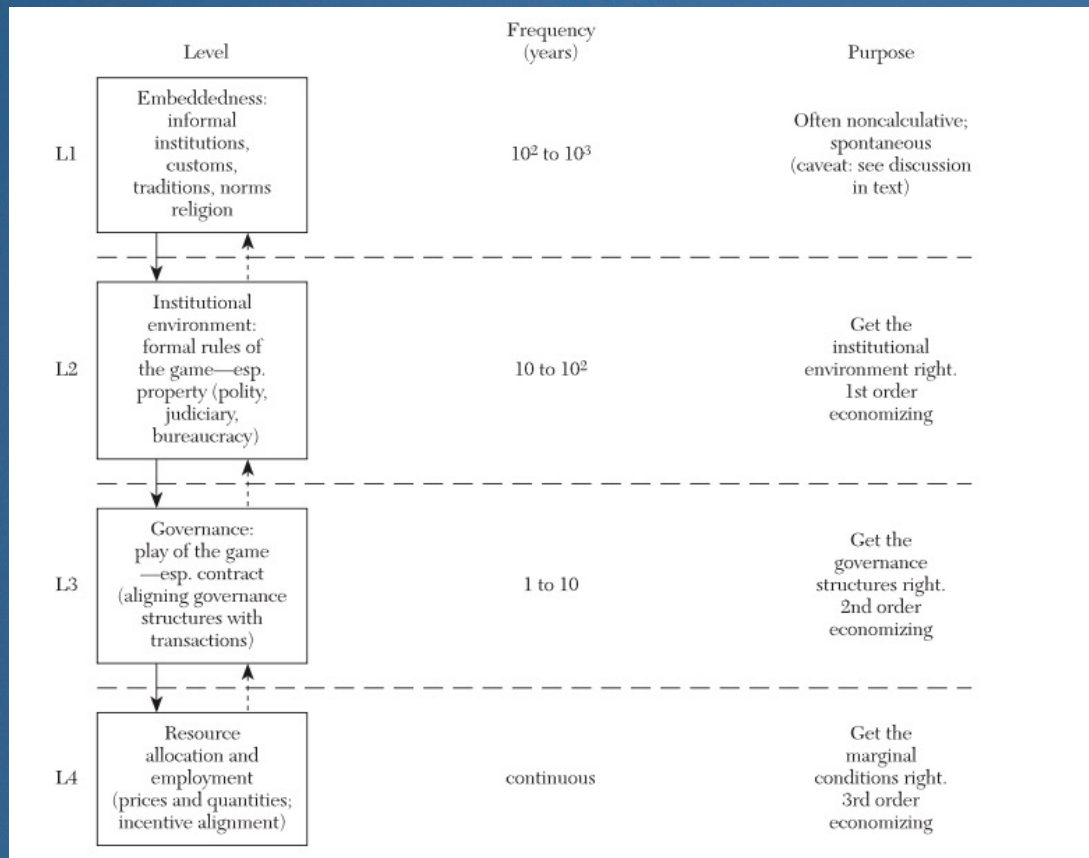
Shift focus from boxes...

...to interfaces



Governance?

The rules that are established for stakeholders to make decisions together



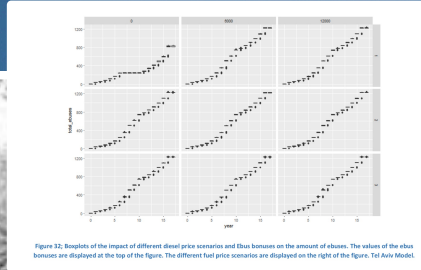
Journal of Economic Literature
Vol. XXXVIII (September 2000) pp. 595–613

Data, mobility and energy: the promiss 2



New analytical tools on interfaces

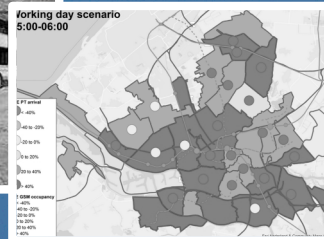
Examples



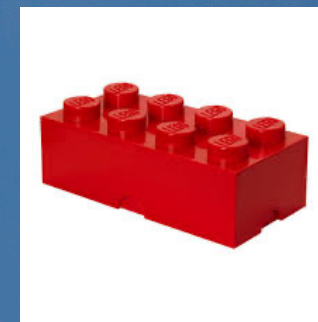
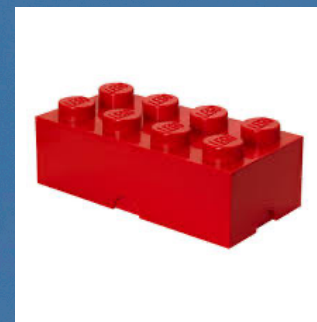
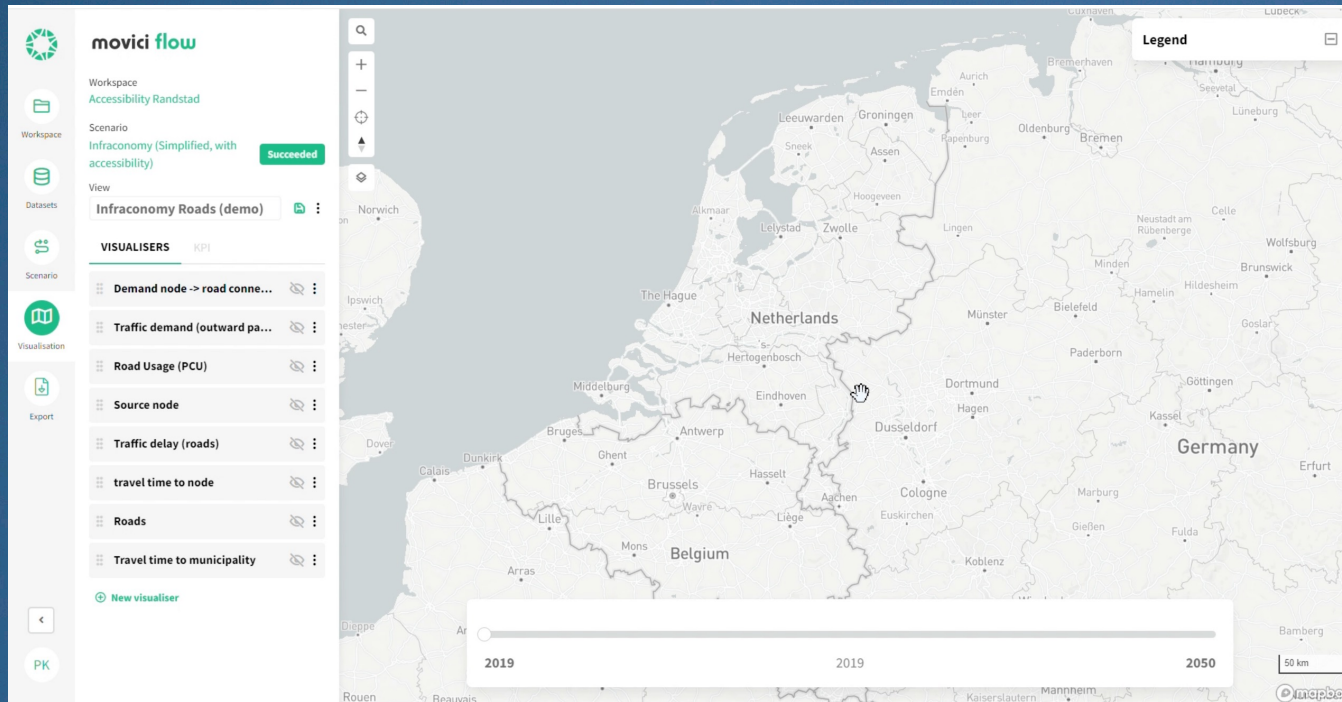
Powertrain



Scale



Movici: Modelling platform



Vielen dank



*And thanks for a
great week*

