

Post-car mobility: A perspective with the Concept of Transport System's Evolution

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Wissen für Morgen



Great growth and efficiency gain but also limits of growth and efficiency

Bild eines
Familienautos
Aus den 60ern

Bild einer
Eigenheimsiedlung im
Grünen, dass durch
das Automobil
„erreichbar“ wurde

Bild einer Autobahn die
Ferienziele per Auto
erschlossen hat (zB
Italien)

Bild eines
Paketdienstleistern der
per leichtem
Nutzfahrzeug Pakete
zustellt

Bild vom Stau

Bild das den Smog
über einer Stadt zeigt

Bild eines komplexes
Autobahnkreuzes, dass
die Stadt
durchschneidet

Bild einer städtischen
Straße mit der Vielzahl
der Nutzer: parkende
Autos, Paketauto in der
zweiten Reihe,
Fahrräder,
Fußgänger...



What future intuitively makes sense for you?

Future 1: automated, electrified cars/trucks

Future 2: Exploitation of airspace by drones

Bild eines Lkw-Fahrers, der ein Tablet während der automatischen Fahrt bedient

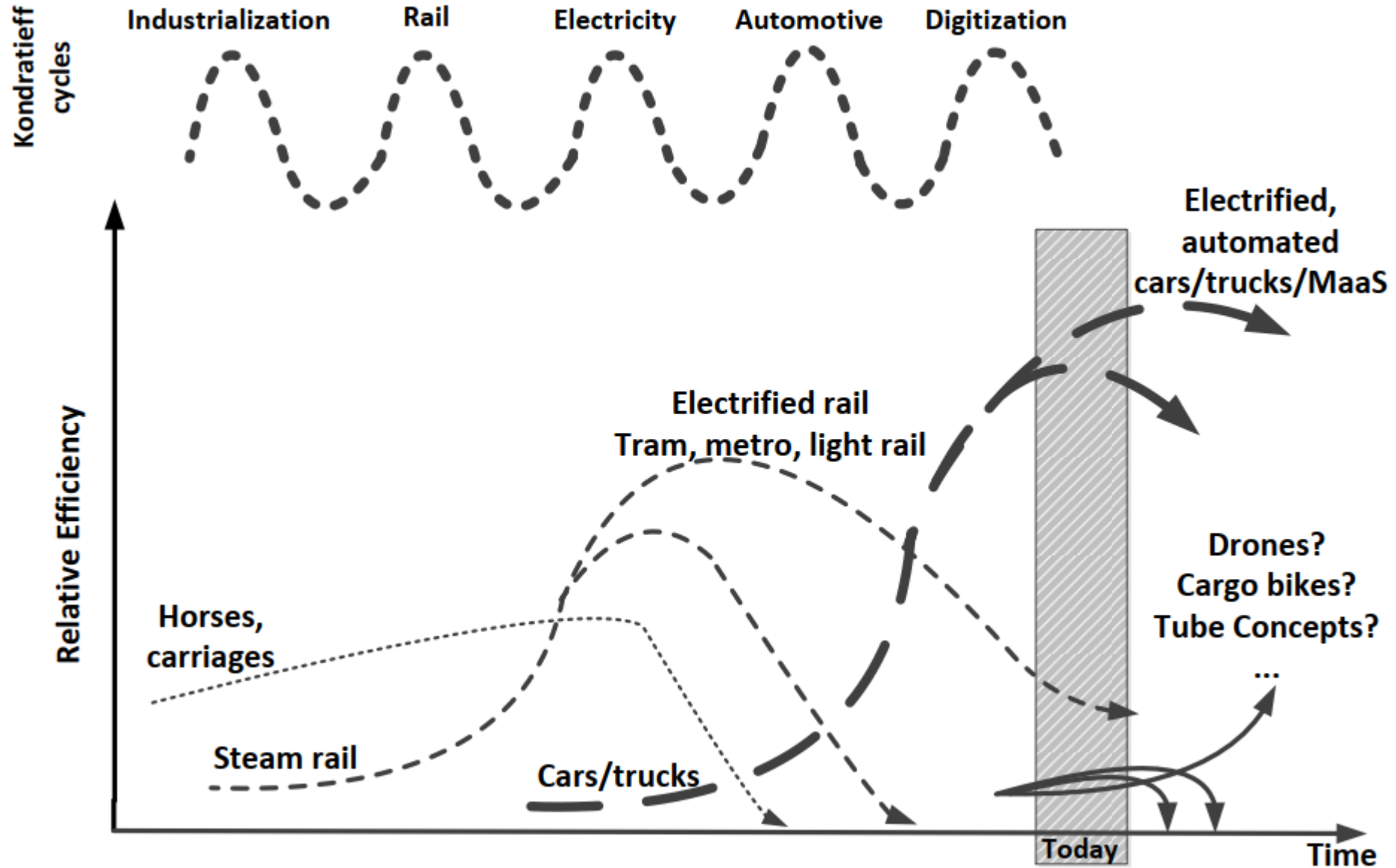
Bild einer Luftdrohne, die ein Paket zuliefert

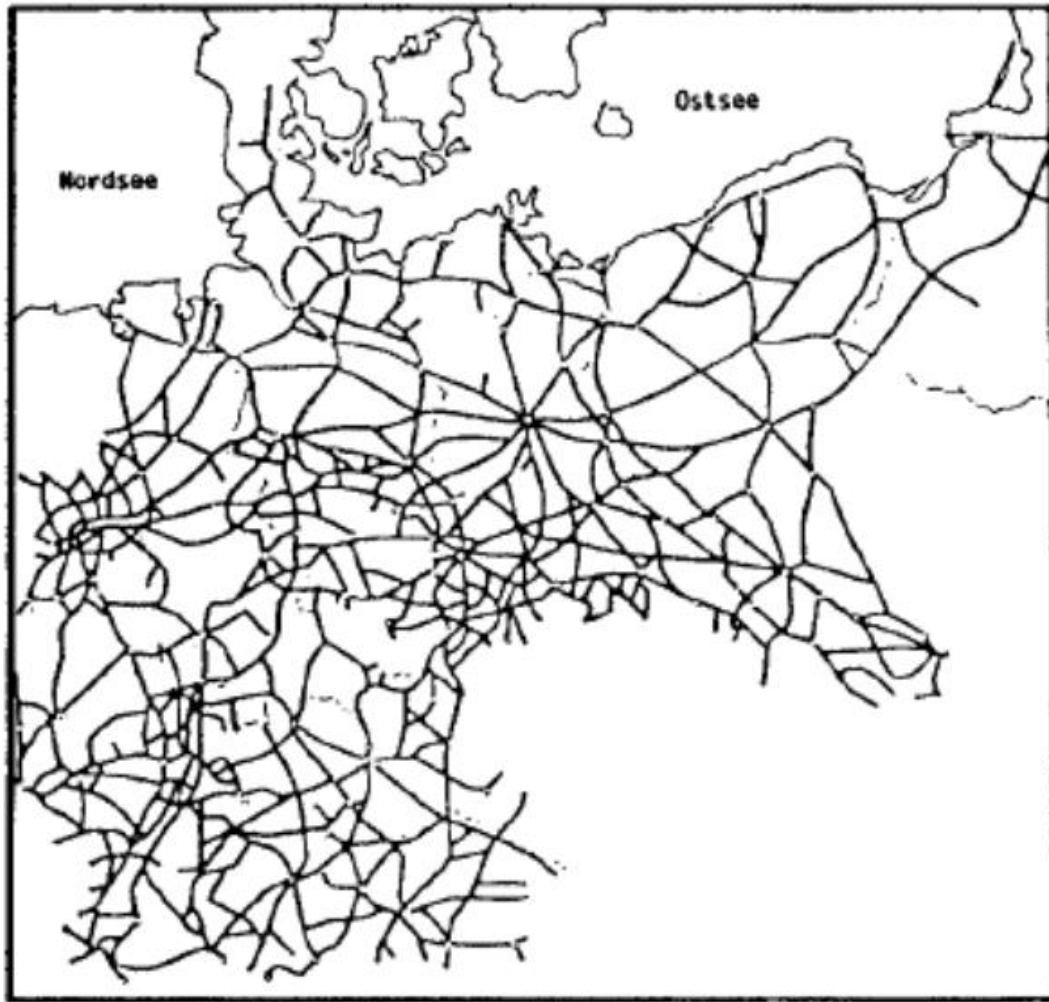
Both futures are likely!

Bild von selbstfahrenden Autos auf der Stadtautobahn, die eine bequeme Fahrt in ungestauten Verhältnissen visionieren

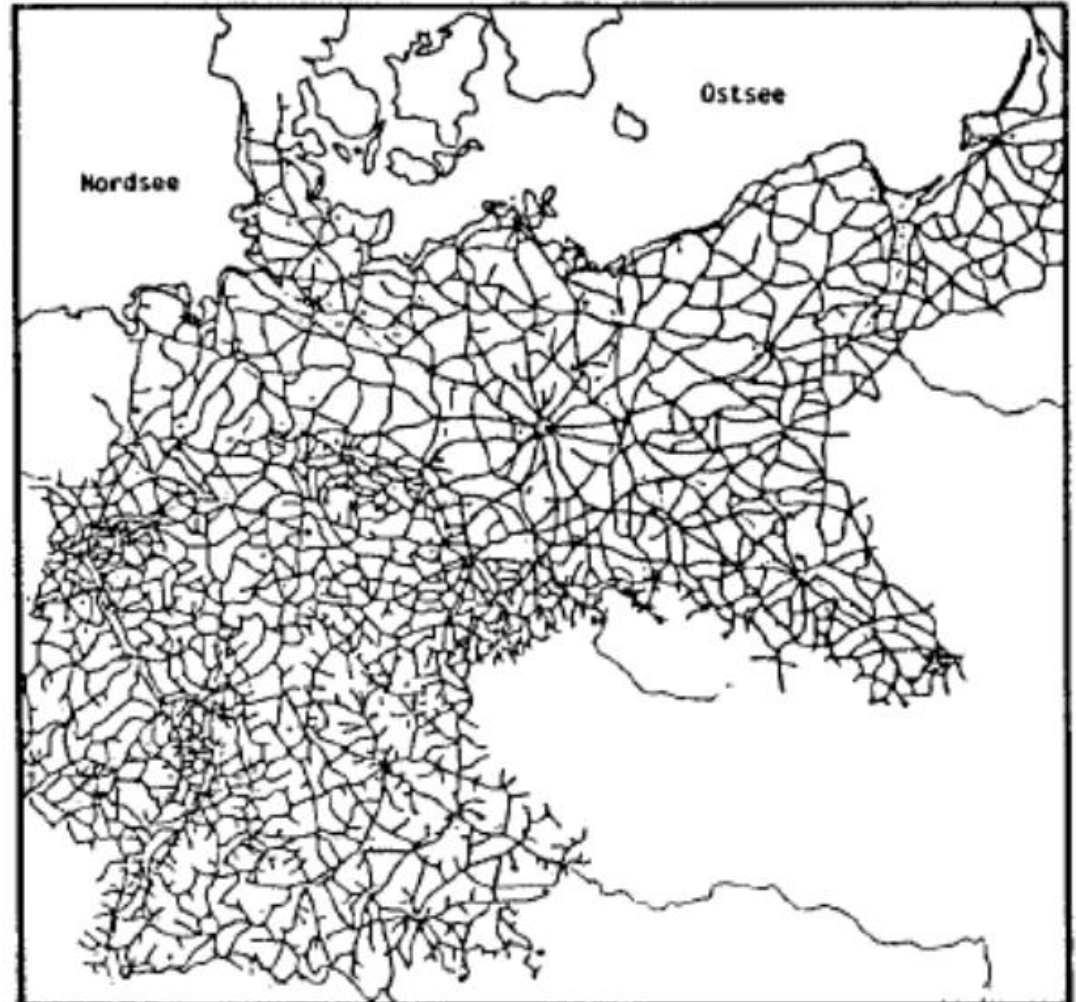
Bild einer Luftdrohne die in Dubai Passgiere transportiert







1880



1913

Rail network development in „Germany“ (Source: Heinze and Kill 1988)

Heinze G.W., Kill H.H. (1988): The development of the German railroad system, in: The development of large technical systems, Publications of the Max-Planck-Institut für Gesellschaftsforschung, Köln, Vol. 2, Ed. by Renate Mayntz, Thomas P. Hughes, Campus, Westview Press, Frankfurt am Main, Boulder (Colorado), 1988, S. 105-134

The systematic of the situation

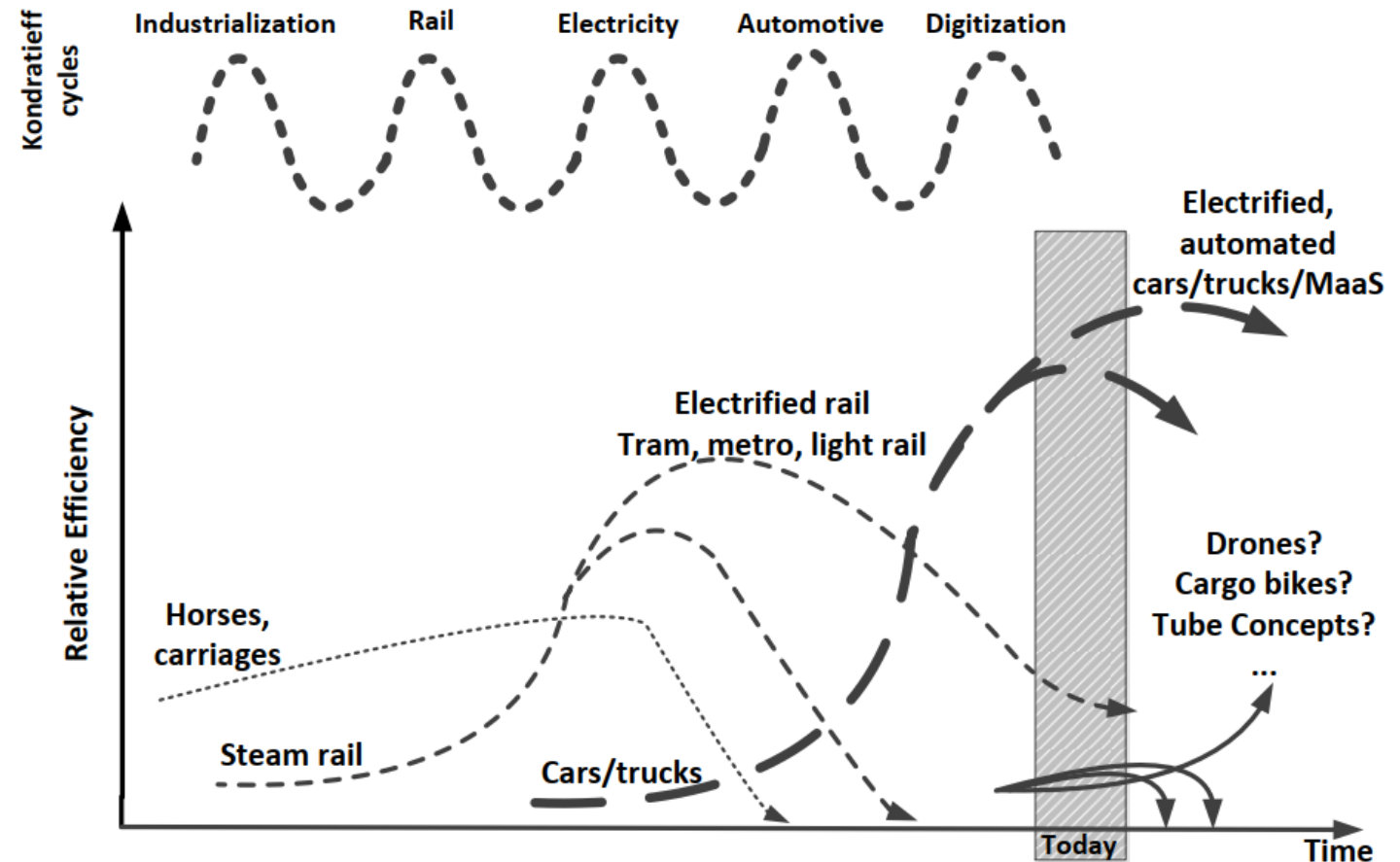
- Innovator's Dilemma (Christensen 1997)
 - Barriers for ,endless' growth are immanent
 - Thus, radical change would be needed to overcome the barriers – (the dilemma)
 - Over-engineering, overestimation of the own technology,/ network power etc, underestimation of alternative's power
 - Segregation of technology supply and demand
- The way into a lock-in
 - Entrepreneurs, inventor's try to find the systematik niche (protection before power)
 - In this niche, other functionalities are required - changing the base of competition
 - Try to find a techno-organizational concept
 - The lock-in is done, when techno-organizational concept with new functionalities according user needs is found

Christensen, C. M. (1997): The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail. Boston, MA: Harvard Business School Press, 1997.



Key points for future mobility according the Concepts of Transport System's evolution

- Automated, electrified Mobility services are the evolutionary pathway: concept of car and car usage remains
- Transition is to think of post-car mobility
- The strategic niche: instant, on-demand mobility
- The change in the base of competition: new functionalities make the difference



Thank you!

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In **1864** the head of the Prussian Statistical Office) wrote to plans to nationalize railways:

“By the way, who can tell where the railways will be in 100 years, and whether they will not be completely devalued by new inventions? What would the railways be worth, if, for example, you would find the means using the steam engine on the highways to work with the same power and speed as on the railways?”

Quelle: Engels (1864). Grenzen des Erfindungsgeistes im Transportwesen

