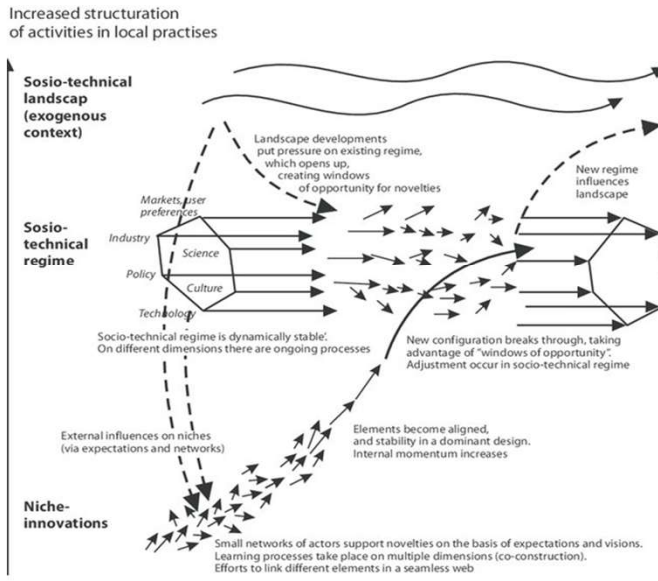


# IBA NDPTL collaboration

- **Transportation sector in EU, Europe and Globally is facing various types of external pressures**, which makes it evident that **the business as usual is not a suitable pathway to meet the future demands**.
- EU is increasingly promoting the **'twin transition'** concept coupling digitalization and sustainability transition towards digital and decarbonized transportation. Digitalization is vital enabler to meet the already announced **Green Deal radical emission mitigation requirements**. In parallel, **data sharing needs** to be rapidly improved in the transportation sector as eFTI, EMSW, ICS 2, etc. will be effective already **after couple years**. Improved data sharing is vital for operational efficiency but also for increasing transparency especially to reduce **Scope 3 emissions** in the supply chains.
- **The acceleration of twin transition in the Baltic corridor requires various structural changes**, re-configurations and moving towards system thinking instead of individual actor based approaches. It has been highlighted in numerous studies that **the systemic change**, not only change in specific factors/attributes such as technologies, **is compulsory** in order to achieve the future goals.
  - The transitions are also including changes and interactions with technology, policy, markets, consumer practices, infrastructure, cultural meaning and scientific knowledge (Geels, 2011)
- **The compelling regulatory framework** is pushing for radical change and therefore the future should be seen as **'locked'** in that respect. Therefore, many scholars have suggested **backcasting approach** to be used instead of traditional forecasting which moves from present onwards. The proactive preparation to create target-seeking and coherent pathways with shared visions among other stakeholders is generating potential for systemic change.

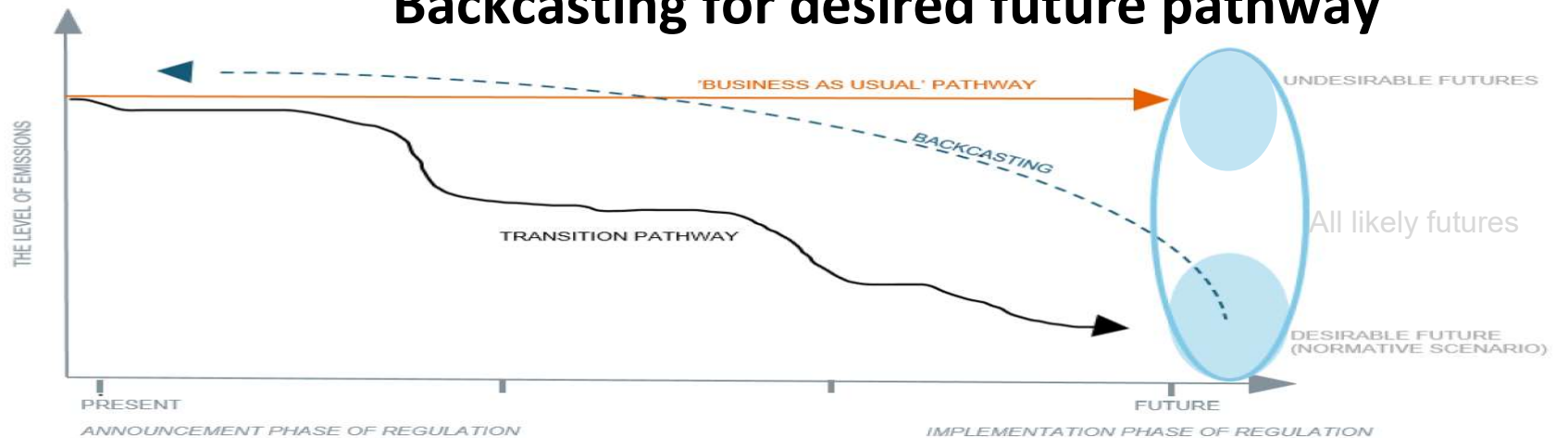


# Multi level perspective for twin transition

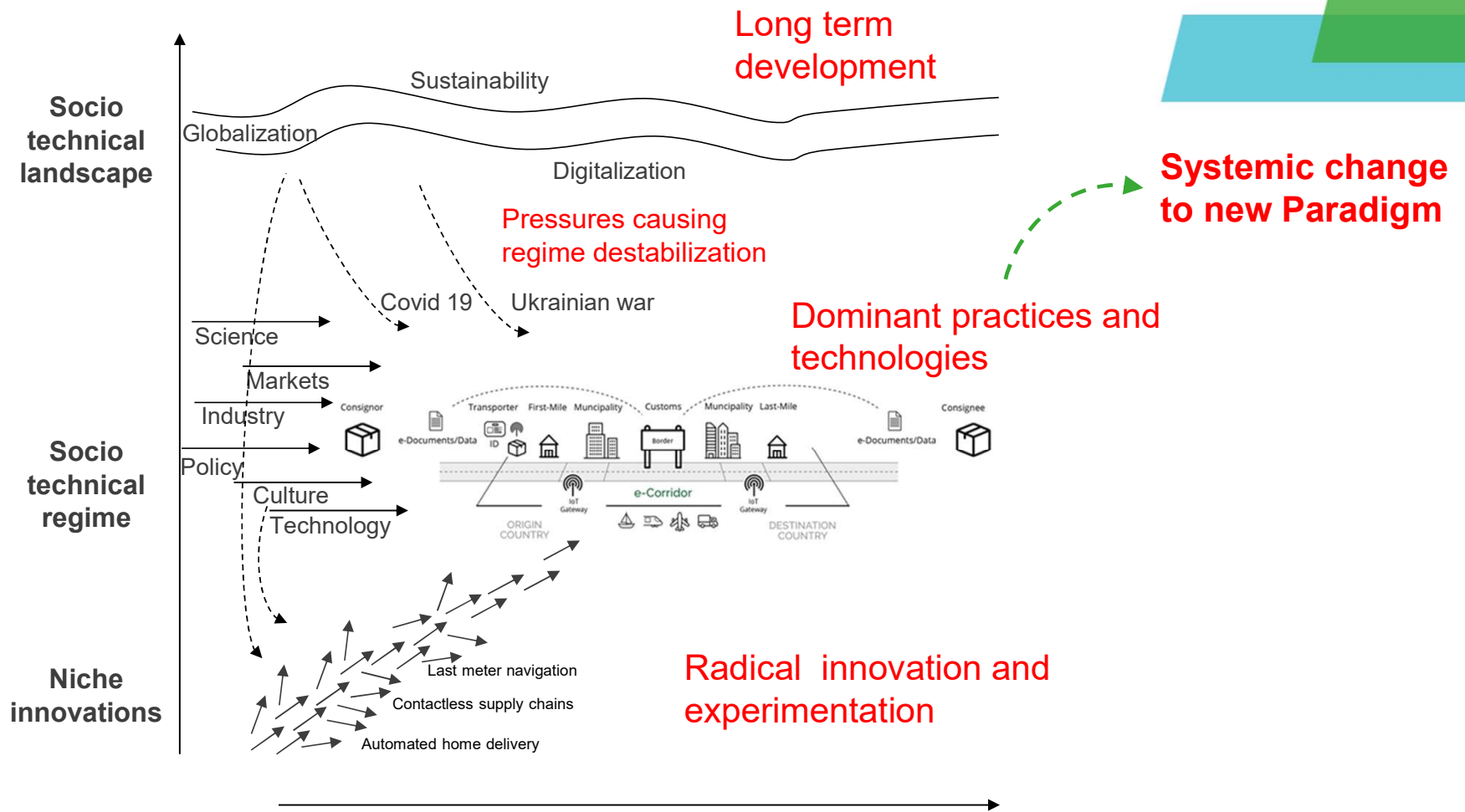


Source: Geels and Schot (2007, p. 401)

## Backcasting for desired future pathway

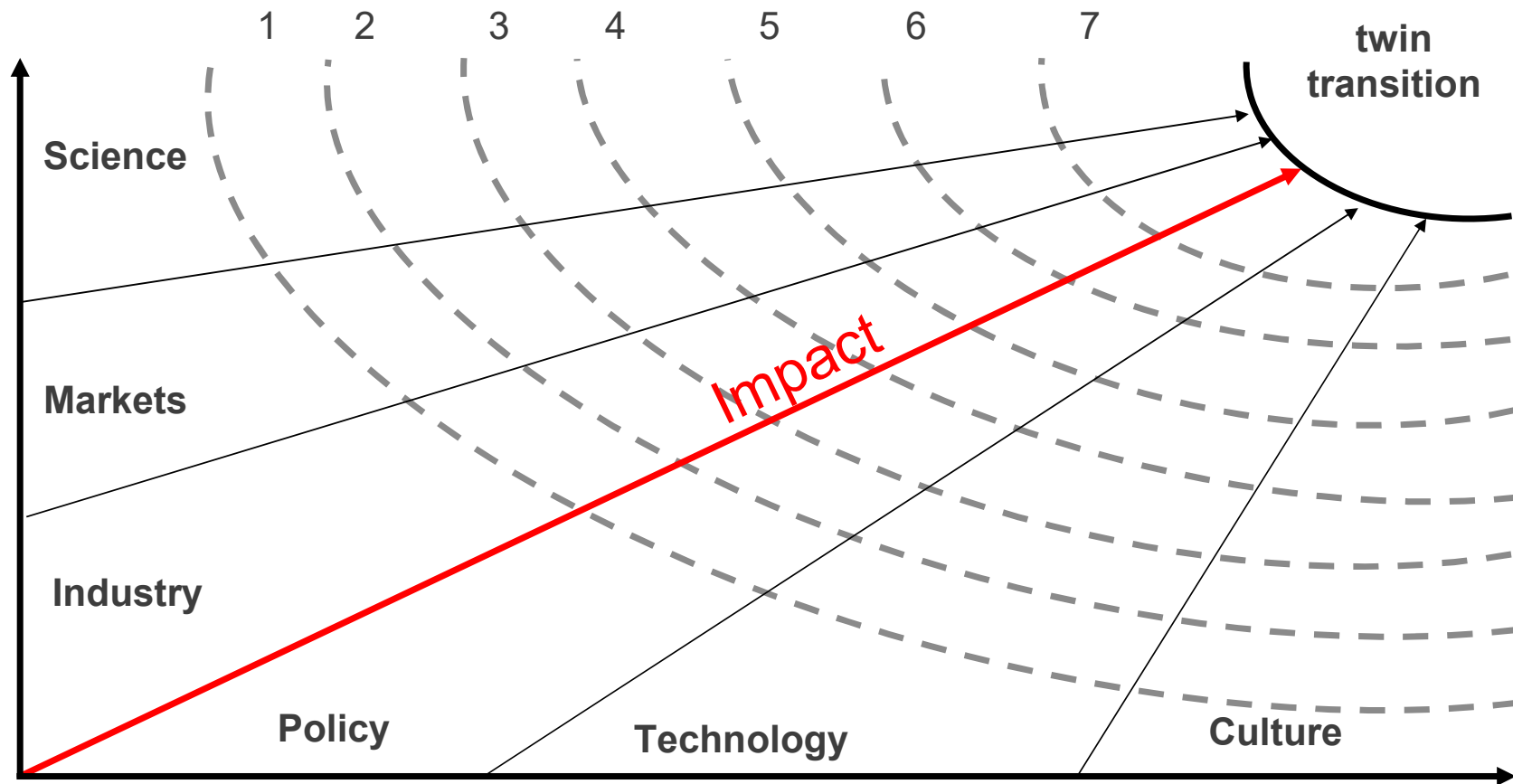


Adopted from Pyykkö et al., 2021



Adopted and modified from Geels and Schot 2007, p 401

# Total impact of socio technical regimes to twin transition



# Impact of socio technical regimes to twin transition (possible attributes)

## Science

- From carbon foot print to hand print
- Zero emission logistics
- Internet of logistics
- Connected logistics
- Energy efficiency
- Multi criteria analysis
- System thinking

## Policy

- OEM CO2 regulation
- Clean vehicles directive
- eFTI
- Corporate sustainability reporting
- ESG reporting
- EU taxonomy
- Sustainable investments

## Markets

- Green logistics
- Low emission solutions
- Cheapest price
- Corridor digital (service) infrastructure and digital connectivity

## Technology

- V2X
- IoT
- 5G
- Blockchain
- E-Vehicles
- Data sharing platforms

## Industry

- Low/zero emission production
- Carbon free products
- Green imago
- Efficiency
- Responsible buyer & Ownership on indirect emission

## Culture

- Consumers' green demand
- Recycling and circular economy
- Responsibility
- Home deliveries

# Impact of socio technical regimes to twin transition – what is important?

