

Creating Integrated Value: From Systems Thinking to Sustainable Transformation in Business and Society

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BASF
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#SustainableTransformation

Are the SDGs an Adequate Response?

RISKS

1. Business ignores the SDGs
2. Business spins the SDGs
3. Business cherry-picks the SDGs

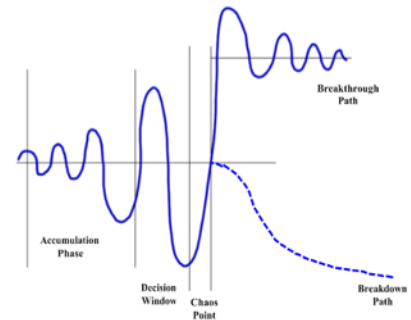
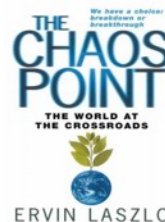


OPPORTUNITIES


1. Business adopts the SDGs
2. Business innovates around the SDGs
3. Business transforms the SDGs

THE REAL CHALLENGE

- Systems Thinking



Systemic Breakdown #1: Disruption



According to the Global Peace Index 2016, only 10 countries in the world can be classified as conflict free

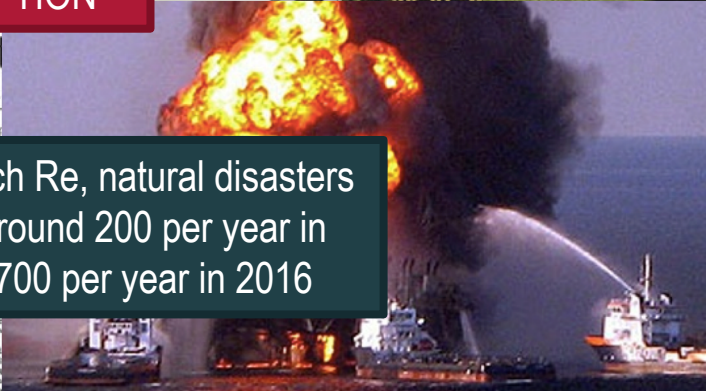


DISRUPTION



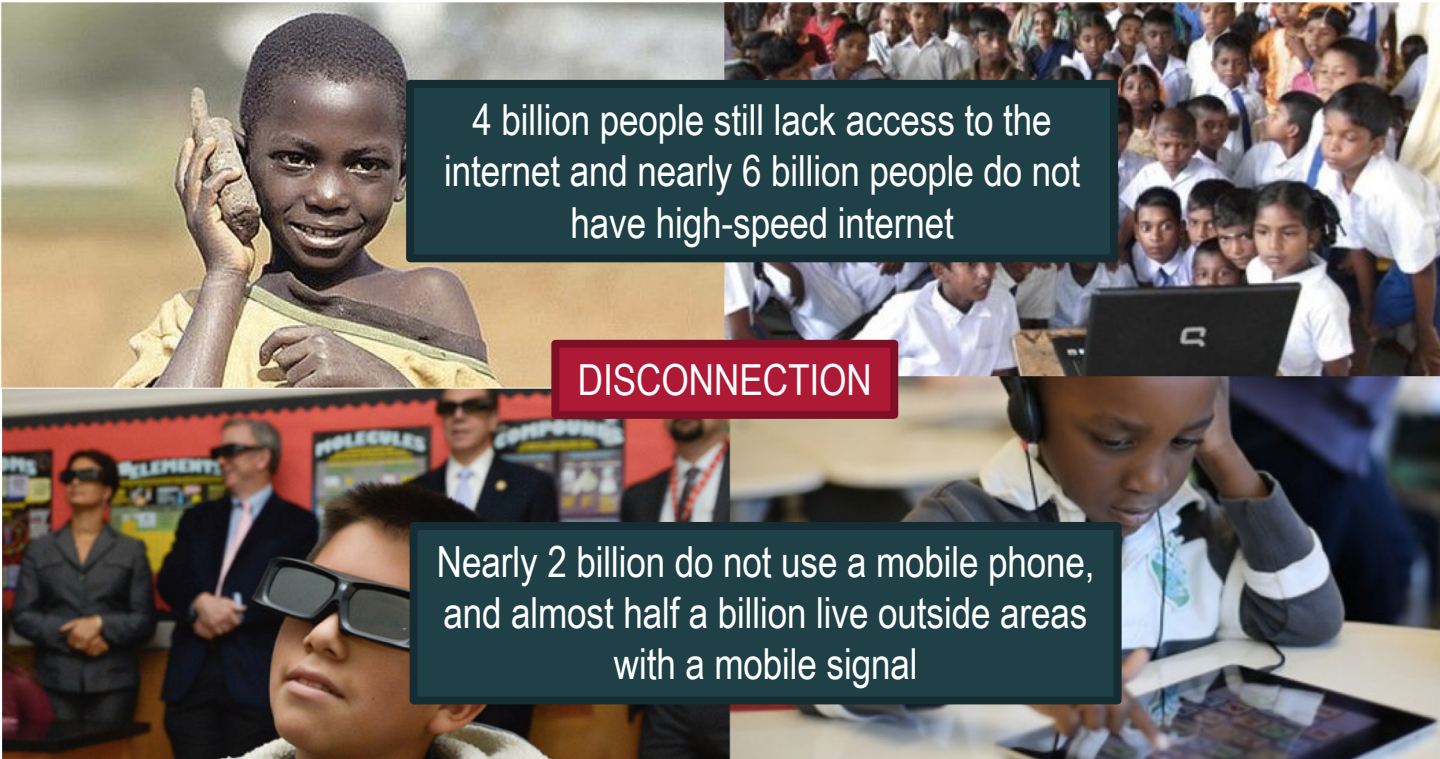
AIG, Lehman Shock Hits World Market

Moves to Fate of Giant Insurer After U.S. Allows Investment Bank to Fail; Barclays in Talks to Buy Core Lehman



According to Munich Re, natural disasters increased from around 200 per year in 1980 to around 700 per year in 2016

Systemic Breakdown #2: Disconnection



4 billion people still lack access to the internet and nearly 6 billion people do not have high-speed internet

DISCONNECTION

Nearly 2 billion do not use a mobile phone, and almost half a billion live outside areas with a mobile signal

Systemic Breakdown #3: Disparity



From 1960, the absolute gap between the average incomes of people in the richest poorest countries has grown by 135%

DISPARITY

Average CEO to worker pay in the U.S. has gone from 20 to 1 in 1965 to around 300 to 1 today

Systemic Breakdown #4: Destruction



Populations of vertebrate species will have declined 67% from 1970 to 2020 if current trends continue




DESTRUCTION



2.5 °C climate warming will devastate ecosystems, increase poverty and cost the global economy \$12 trillion by 2050



Systemic Breakdown #5: Discontent

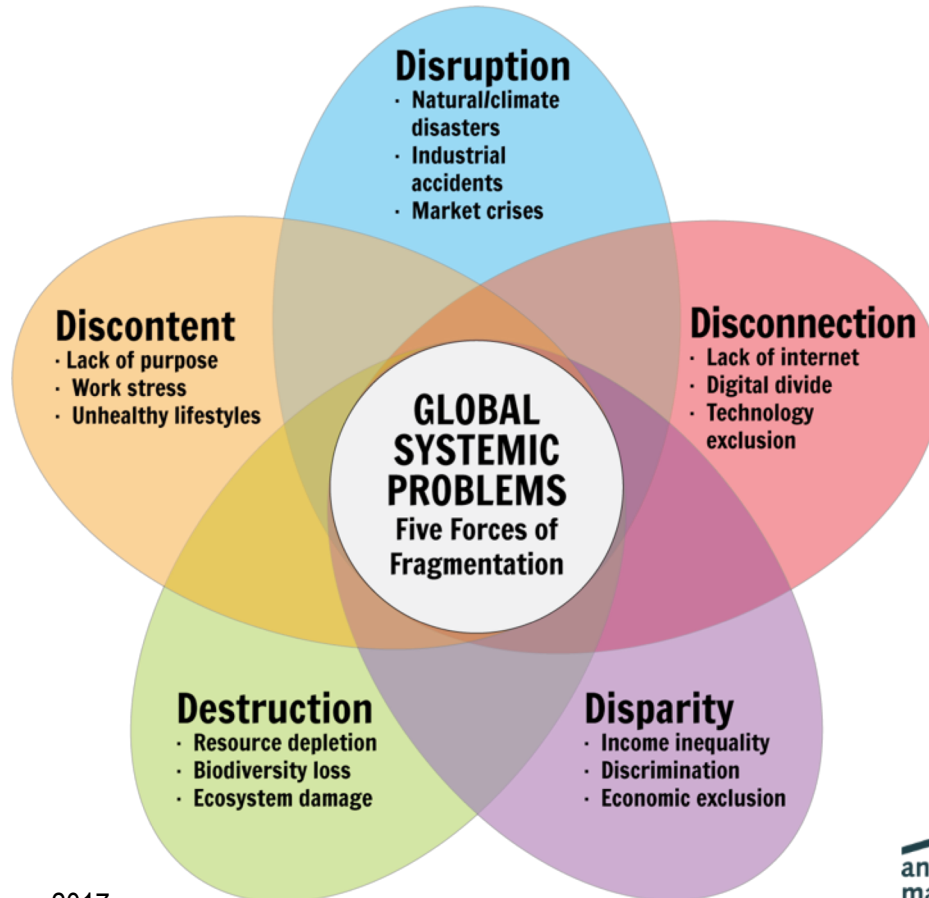


More than 40% of deaths from non-communicable diseases (70% of all deaths) are premature or preventable

DISCONTENT

Depression and anxiety disorders affect 10% of people, cost the global economy US\$1 trillion each year and have increased

Systemic Problems: 5 Forces of Fragmentation



SOURCE: Visser, 2017

Systemic Breakthrough #1: Secure Innovation

SECURE innovation in the
RESILIENCE ECONOMY

- Lowering risk
- Aiding recovery
- Ensuring continuity

Helps us to address problems like the \$330 billion in losses (\$49 billion uninsured) from world-wide natural catastrophes in 2017, up from \$184 billion in 2016

Systemic Breakthrough #2: Smart Innovation



SMART innovation in the
EXPONENTIAL ECONOMY

- Connecting people and things
- Using big data
- Artificial intelligence

The increased use of exponential technologies could add
\$1.36 trillion to total global economic output in 2020

Systemic Breakthrough #3: Shared Innovation



SHARED innovation in the
ACCESS ECONOMY

- Equity / fairness
- Inclusive design
- Sharing platforms

PwC estimates the access economy – also called the sharing economy - may be worth \$335 billion by 2025

Systemic Breakthrough #4: Sustainable Innovation

SUSTAINABLE innovation in
the CIRCULAR ECONOMY

- Bio/renewable products
- Zero waste design
- Being climate positive

Accenture estimates that the circular economy opportunity could be worth \$4.5 trillion by 2030

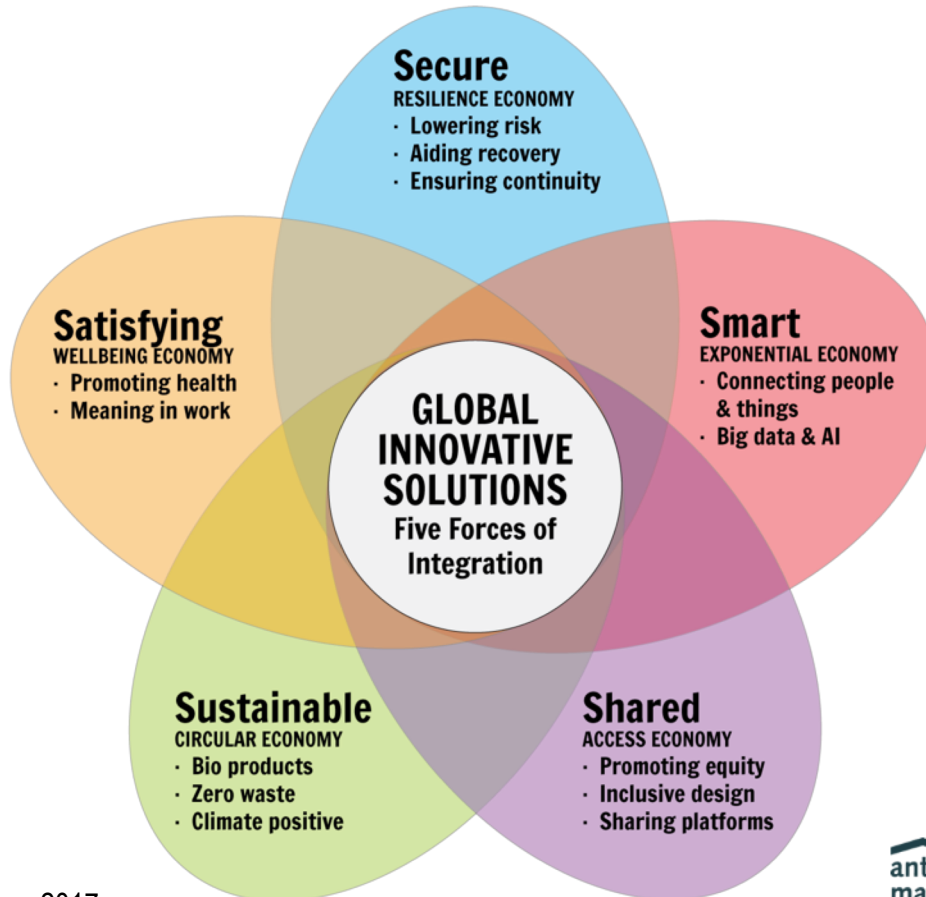
Systemic Breakthrough #5: Satisfying Innovation

SATISFYING innovation in
the WELLBEING ECONOMY

- Human health
- Quality of life
- Meaning in work

According to the Global Wellness Institute, the wellbeing economy was worth \$3.72 trillion in 2015

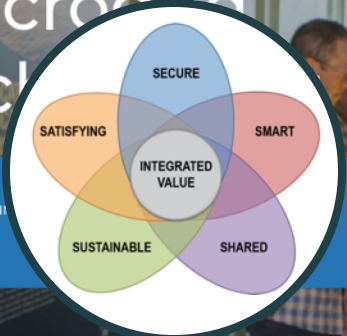
Systemic Solutions: 5 Forces of Integration



SOURCE: Visser, 2017

Creating Integrated Value: Sustainable Ports

Port of Auckland – DC Microgrid Research



New Zealand
| Climate and Energy Commu
Resilient Infrastructure
| Ongoing

Ports of Auckland Ltd and the University of Waikato are working together on a pilot program for a DC microgrid for buildings

Secure + Sustainable

**SUSTAINABILITY
– WHAT IT MEANS FOR
PORTS OF AUCKLAND**

Our vision is to become a leading sustainable port woven into the fabric of Auckland and driving the growth to improve the environment for future generations.

We've made a commitment to be a pioneer in sustainability in our region and the wider world. This is New Zealand, and we're proud to be a part of it. That's why Auckland is a great place to live, work and play.

But what does being 'sustainable' mean?

For many, the first thing that springs to mind is environmental, saving water and reducing emissions. That's important, but it's not everything.

Sustainability is also about Ports of Auckland being a commercially successful business, and we're working hard to ensure that. It's about finding the right balance between the two. Our customers need the right services at the right time, to drive Auckland's growing economy.

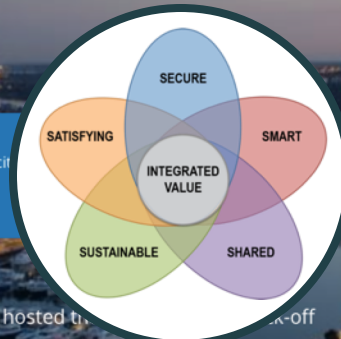
Creating Integrated Value: Sustainable Ports

Port of Antwerp – CIVITAS PORTIS project

Belgium

| Community outreach and port-city
Safety and Security

| Ongoing



In September 2016, Antwerp hosted the kick-off meeting. The project involves 33 partners from five port cities working together on sustainable mobility in terms of commuter's and

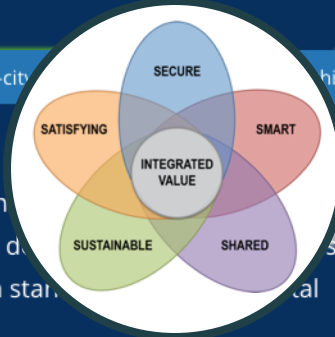
Shared + Sustainable

Creating Integrated Value: Sustainable Ports

ESPO – EcoPorts

Community outreach and port-city

chics



The aim of EcoPorts is to in
environmental challenges, d
and to demonstrate a high stan
management.

Sustainable + Satisfying

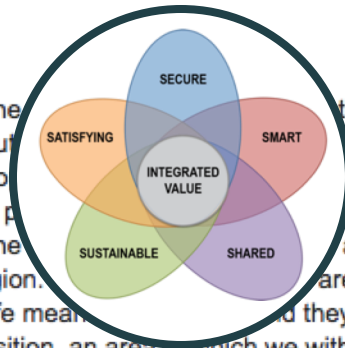
Creating Integrated Value: Sustainable Ports

Port Authority acquires NMP pipeline company

22 Nov 2017 | Antwerp Port Authority is to acquire Nationale Maatschappij der Pijpleidingen (NMP) from its current shareholders Ackermans & van Haaren and Electrabel. With the takeover Antwerp Port Authority will gain ownership and control of 720 km of pipelines, 90% of which serve the chemical and petrochemical companies in the port of Antwerp and its hinterland. The Port Authority is paying 44 million euros for the NMP shares.



“Pipelines are the backbone of the chemical industry and oil refining,” explains Port Authority CEO Wilfried Vanhoye. “By giving them access to a pipeline network that is one of the most important for the economy of Belgian and Flanders, and the most environment-friendly, energy-efficient and safe means of transport around the port area are further established in the Antwerp region. They help to create growth opportunities as part of the energy transition, an area in which we with our unique platform play a key role.”

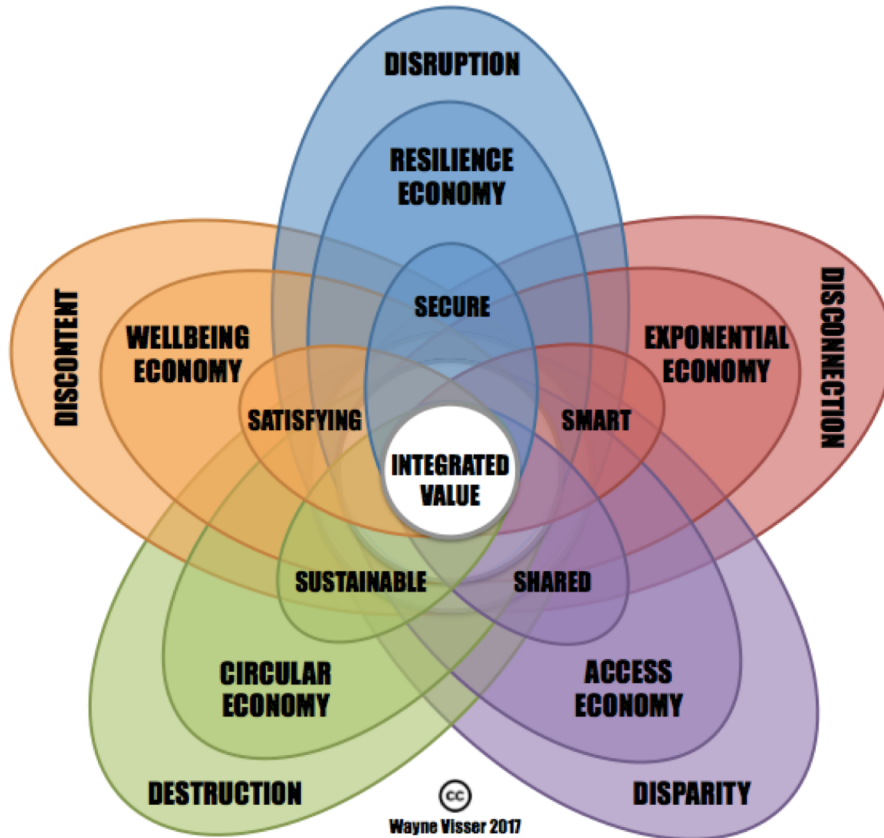


NMP

Secure + Shared + Sustainable

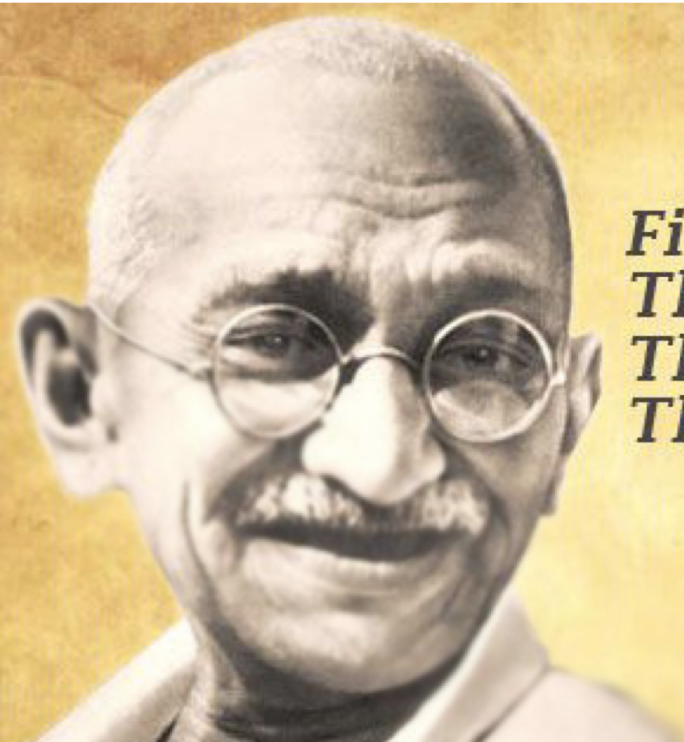
The company is a leading provider of port of Antwerp and pipelines leading to and from it. NMP at present obtains 86% of its income from 600 km of pipelines

A Systems View Focuses on Innovation Synergies



INTEGRATED VALUE goes beyond looking at new ways to measure value. Integrated value is much more about **INNOVATION SYNERGIES** through solutions that are secure, smart, shared, sustainable and satisfying

In Conclusion: Go Far, Together



*First they ignore you.
Then they laugh at you.
Then they fight you.
Then you win.*

-Mahatma Gandhi

Opening Minds.
Touching Souls.
Energizing Business.

THANK YOU!

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#SustainableTransformation