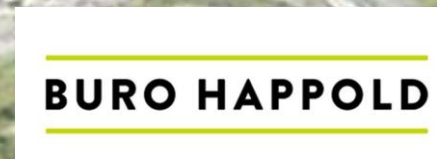


UNIDAD DE GESTIÓN DEL PROYECTO



Project: Lune Delta
Design: CITYFÖRSTER creating better places, urbanegestalt, Transsolar KlimaEngineering

Online Seminar on International Best Practices for the establishment and management of Sustainable Industrial Zones

June 22nd, 2021

Operado por:



Punto focal The GEF:



Financiado por:



Implementado por:



Agenda

WP1. 2-hour online seminar on International Best Practices for the establishment and management of sustainable industrial zones

On the basis of existing material and international experiences developed by international organizations, prepare a 2-hour high-level seminar for government officials and private sector representatives (directors, managers). The seminar aims to raise awareness on the best international practices for the establishment and management of sustainable industrial zones. The material to be used should include presentations, practical cases and examples. The contractor shall present a seminar concept note one week before carrying it out..

	Time slot	Activity/ Session	Expert	Interpretor
22.06.2021	09:00 -09:20	Welcome Welcome and overview of ZIS Peru	Marianella Hernandez Vladimir Lozano	N/A
2,h ca. 46 participants	09:20 -09:40	Part I - SIZ Global Best in Class Introduction to SIZ in global context including rating and standards	Thomas Kraubitz	Laura Geissinger
	09:40 -10:10	Part II - SIZ Signature and USP International Best Practice on SIZ, drivers, unique features/ signatures	Thomas Kraubitz	Laura Geissinger
	10:10 -10:40	Part III - SIZ Carbon and Payback ZIS in context to Carbon Management, Costs and Payback periods	Thomas Kraubitz	Laura Geissinger
	10:40 -11:50	Part IV - Game of Zones Game of Zones as tool to drive SIZ projects	Thomas Kraubitz	Laura Geissinger
	10:50 -11:00	Close Out by UNIDO / QA Moderated discussion and Close Out	Marianella Hernandez	Laura Geissinger



Welcome

09:00 – 09:20


BURO HAPPOLD





BURO HAPPOLD

Buro Happold – One diverse team of Engineering enthusiasts with a green and smart spin that over the last 40 years has become synonymous with the delivery of creative, value led building and city solutions for an ever changing world. Working out of 26 locations worldwide with close to 2000 people.







WHERE WE ARE



**WHERE WE MAKE A
DIFFERENCE**

Buro Happold



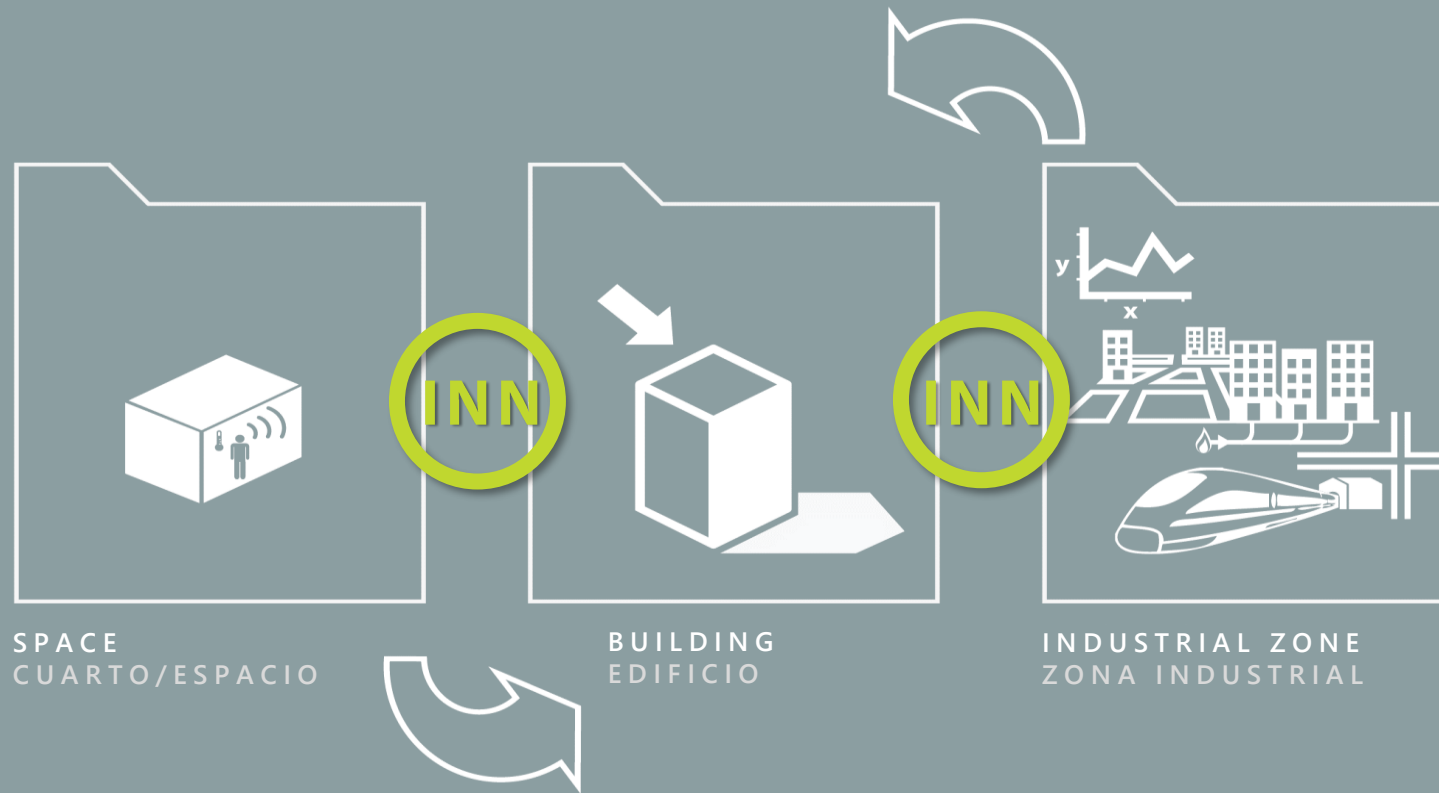
Part I – SIZ Global Best in Class

09:20 – 09:40

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SCALE



Combined International Framework

[An international framework for eco-industrial parks v2.0.pdf \(unido.org\)](#)

2 A Common Understanding of Eco-Industrial Parks

Combinations of related EIP terminology used internationally

Eco
Sustainable
Low Carbon
Green
Circular

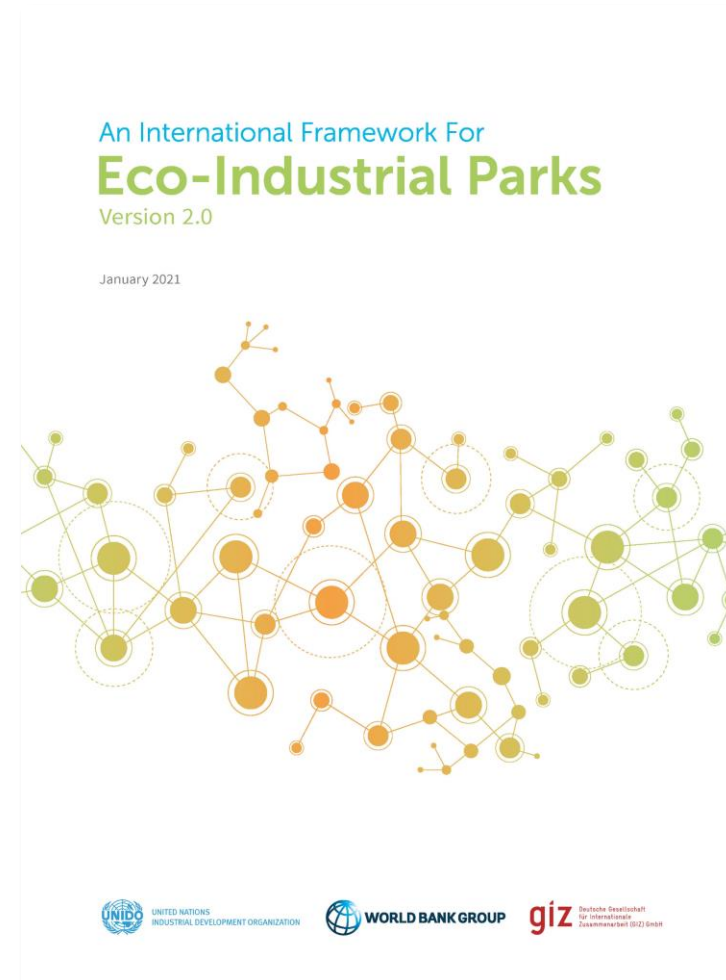


Industrial
(Special) Economic
Technological
Investment
Manufacturing



Park
Zone
Area
Cluster
Estate

Thomas Kraubitz of Buro Happold reviewed v1.0 of that joint document



Combined International Framework

[An international framework for eco-industrial parks v2.0.pdf \(unido.org\)](#)

Institutional and organizational capacity

Description: There are potentially a large number of internal barriers, one of the most important being technical capacity.

Barriers:

- Lack of internal resources and technical workforce.
- Lack of motivation for continuous improvements in moving toward an EIP.
- Lack of experience in dealing with developers and authorities.
- Lack of capacity for energy conservation and pollution prevention, or awareness of their cost saving potential.
- Lack of stakeholder communication channels.
- Lack of management resources.
- Lack of indicators and guidelines.
- Lack of external support from owners, value chains, communities and international organizations.

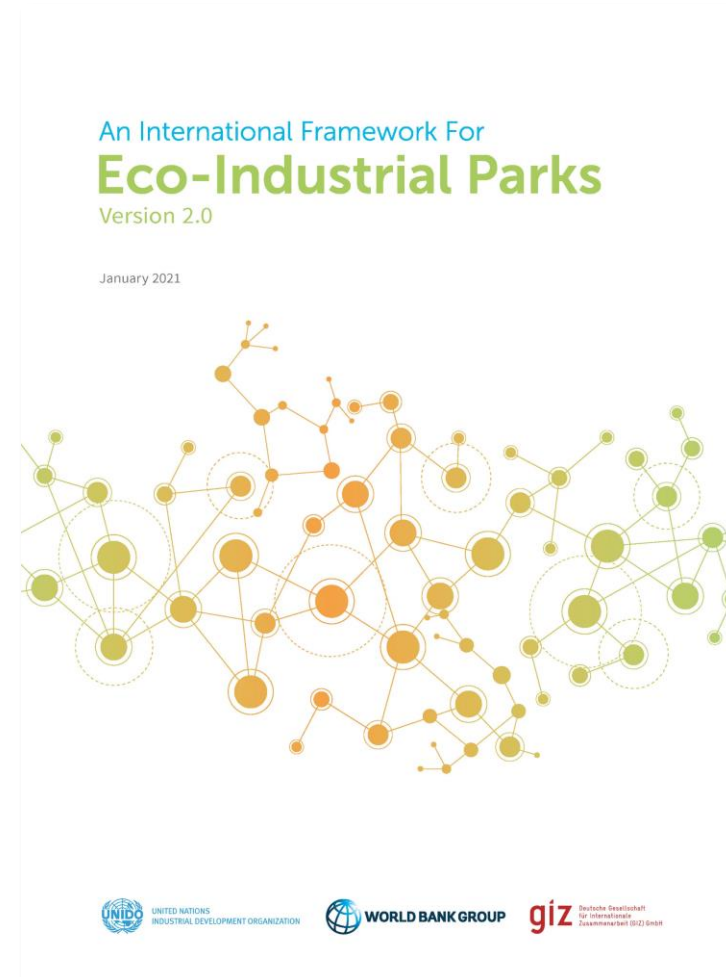
Example Solutions:

Policy makers can:

- Prepare national guidelines and standards for EIPs. The performance standards suggested here can help inform frameworks and serve as benchmarks.
- Fund training programs.

EIPs can:

- Examine sector-specific international best practices and adhere to them.
- Develop internal training programs to build human resource capacities, which in turn can provide a competitive advantage.
- Engage with national and regional stakeholders to build confidence in EIPs.
- Engage professionals and/or firms to undertake EIP assessments, site master planning, and so on.



Reference – ALEAP in India

[An international framework for eco-industrial parks v2.0.pdf \(unido.org\)](#)

ALEAP Green Industrial Park in Telangana, India



Industrial Park Overview

The Association of Lady Entrepreneurs of India (ALEAP) (now known as the Association of Lady Entrepreneurs of Andhra Pradesh) is a national level organization which aims to uplift and empower women through the establishment of small and medium enterprises. Given the paucity of government-funded industrial parks for women, ALEAP raises funds to develop industrial parks exclusively for women entrepreneurs.

On behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), GIZ GmbH provided technical support to ALEAP for site master planning of the ALEAP-Green Industrial Park (A-GRIP) project. It is located at Nandigama, near Hyderabad in Telangana State. A-GRIP covers 334,094 m² (82.55 acres) of land outside the settlement area of the Nandigama village, and hosts 170 women entrepreneurs. For site master planning, many criteria were considered. These relate to economic, social, environmental, gender and resource efficiency issues. These considerations have now been integrated into the planning of the industrial park, and use benchmarks set by the German Sustainable Building Council (DGNB).

Processes

At the outset, the special requirements for women entrepreneurs and employees, and overall development needs, were identified. Since most of the women entrepreneurs were unable to clearly communicate their needs, a series of workshops, meetings, and field visits were organized. In addition, case examples and international conferences were used to gather ideas and requirements for the A-GRIP. A site master plan was developed according to the DGNB rating system, and reviewed at various stages by stakeholders, especially the women entrepreneurs and ALEAP.

ALEAP steered the process (see figure 5) with technical support from GIZ, coordinating with government agencies for land use conversions, plan approvals, and so on. It also played an important role in negotiating and decision-making, including gathering different perspectives, catalysing political and strategic decisions, and enhancing cooperation among partners and stakeholders.

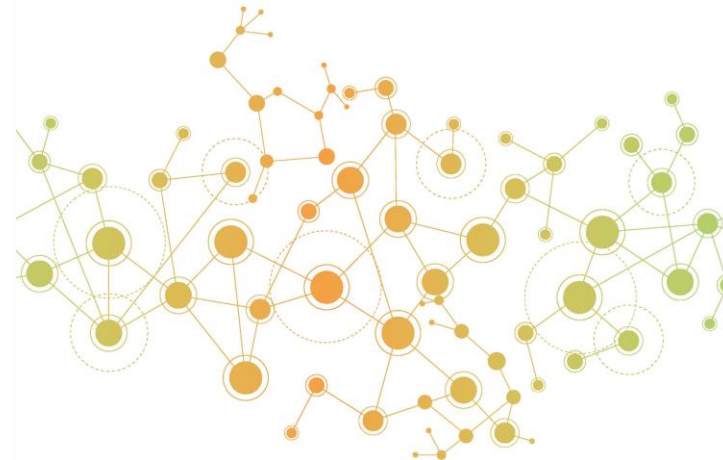
Figure 5: Main Stages of A-GRIP Site Master Planning



Source: GIZ Indo-German Environment Partnership Programme

An International Framework For Eco-Industrial Parks Version 2.0

January 2021



Reference – ALEAP (Association of Lady Entrepreneurs)

DELIVERING AND GUIDING INDUSTRIAL STRATEGIES AND PLANS



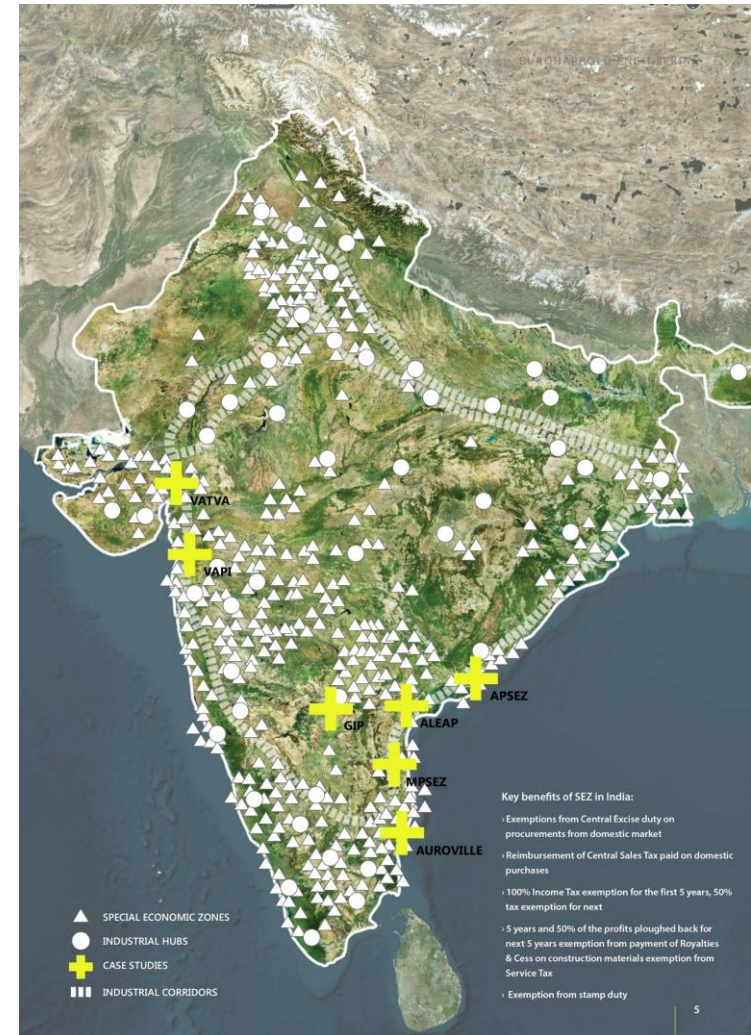
INTEGRATION OF ENVIRONMENTAL PROTECTION AND ITS MONITORING



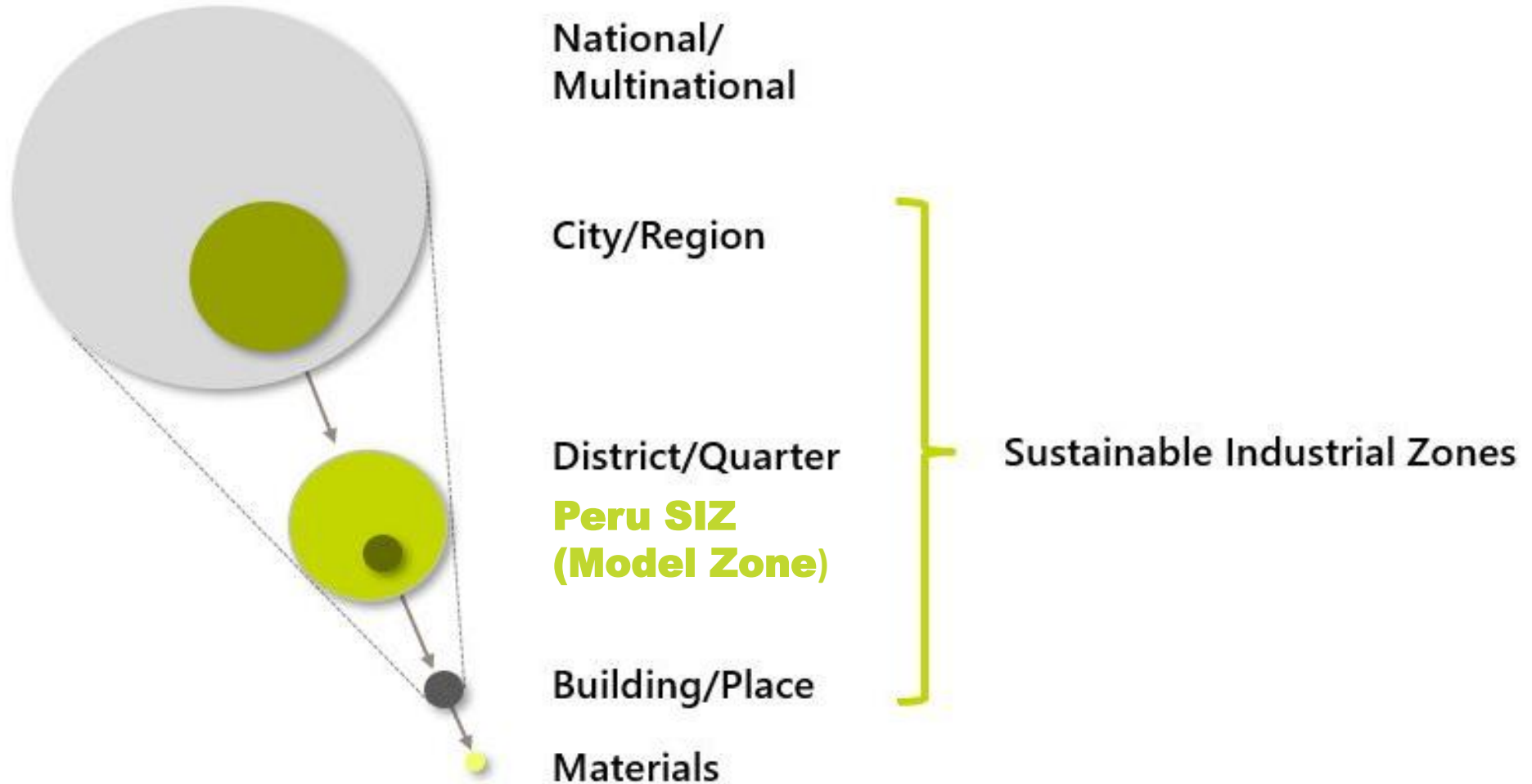
PROVIDING SAFE AND FAIR WORKING ENVIRONMENTS



ENSURING HIGH QUALITY OF PRODUCT AND LIFE



Scale



References - Scale – S,M,L,XL,XXL



APSEZ (2,300 HA)
 ANDHRA PRADESH SPECIAL
 ECONOMIC ZONE AT
 VISAKHAPATNAM



GIP (386 HA)
 GREEN INDUSTRIAL PARK
 AT JADCHERLA



ALEAP GRIP (32 HA)
 ASSOCIATION OF LADY
 ENTREPRENEURS OF ANDHRA
 PRADESH AT NANDIGAMA



MPSEZ (1,114 HA)
 MULTI-PRODUCT SPECIAL
 ECONOMIC ZONE AT
 NAIDUPETA



VATVA (527 HA)
 VATVA INDUSTRIAL PARK
 AT AHMEDABAD



VAPI (902 HA)
 VAPI INDUSTRIAL PARK
 AT VALSAD DISTRICT

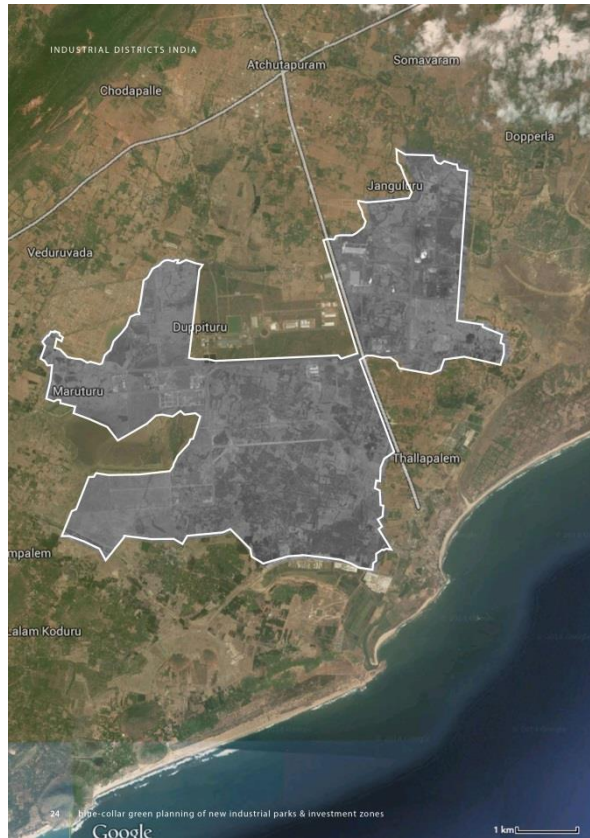


DGNB

Deutsche Gesellschaft für Nachhaltiges Bauen
 German Sustainable Building Council



Reference - APSEZ - and DGNB Industrial District Rating



Reference - GIP - and DGNB Industrial District Rating



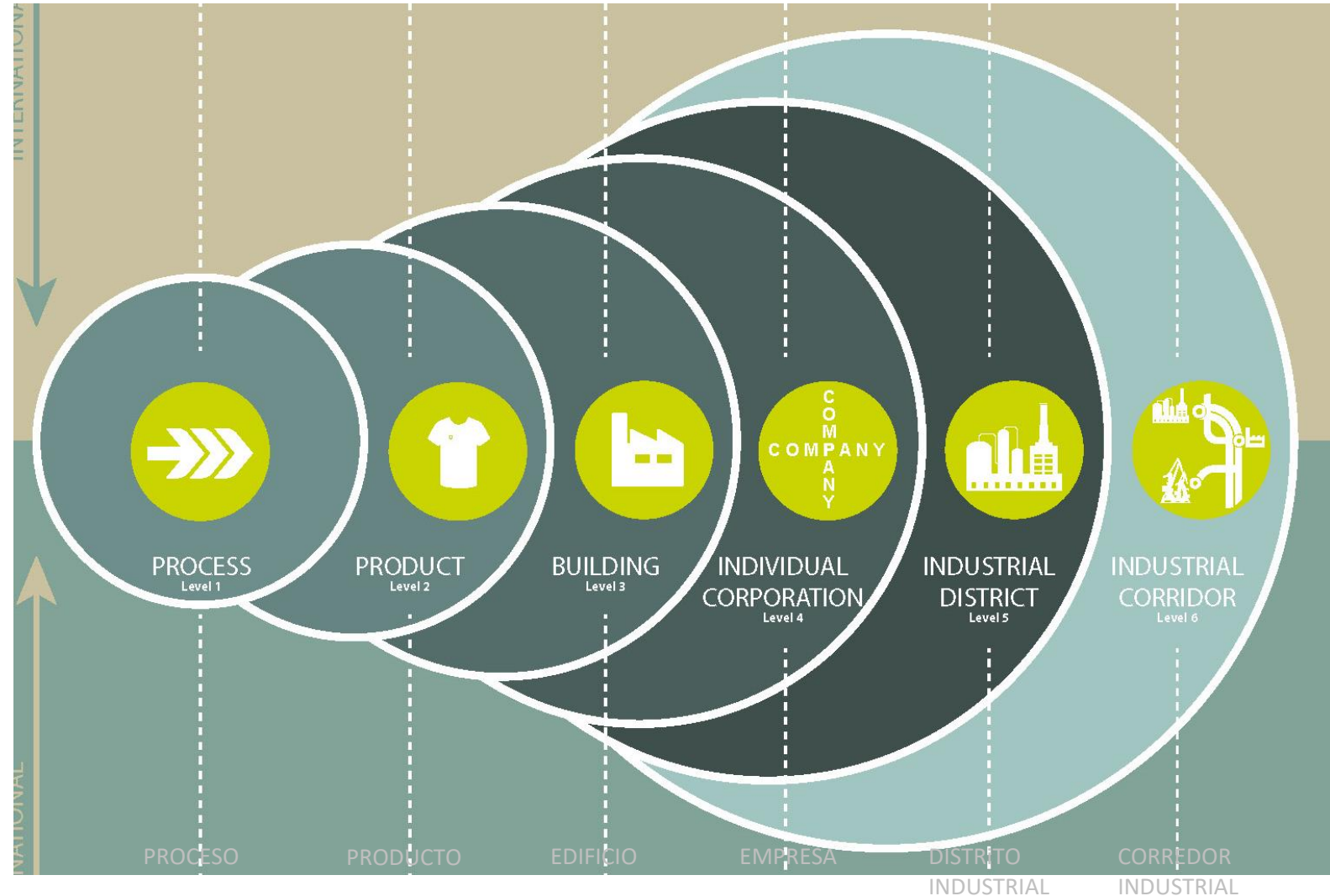
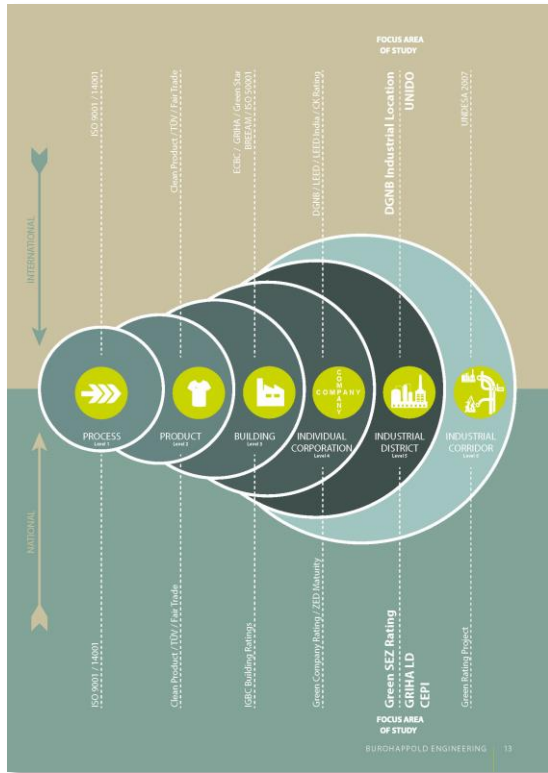
Reference - MPSEZ - and DGNB Industrial District Rating



Reference - ALEAP - and DGNB Industrial District Rating



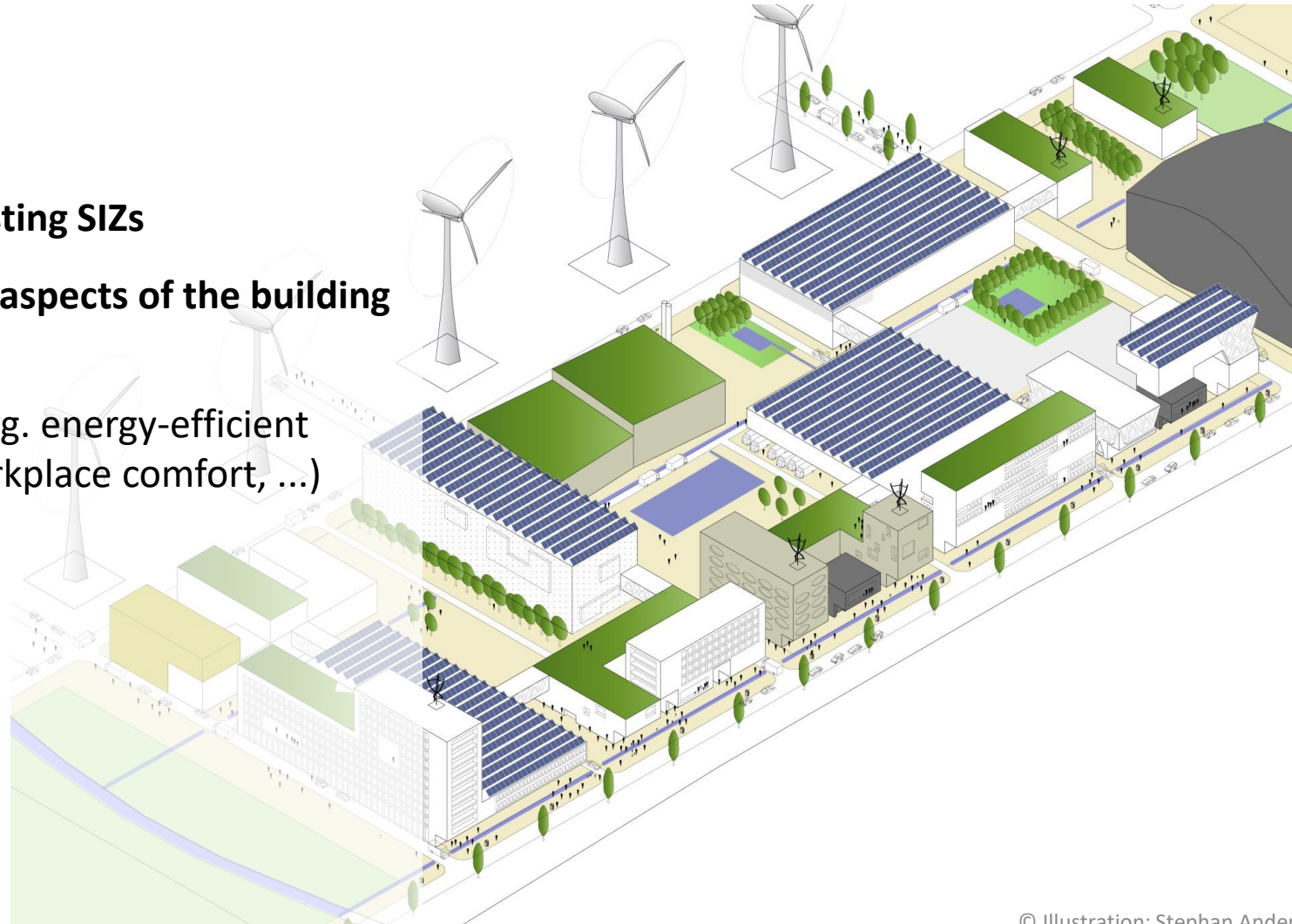
Reference – International Best Practice – work for GIZ



DGNB Scheme for Industrial Districts



- Possibility of evaluation of **new, existing** SIZs
- Evaluation of open space and some **aspects of the building** (eg. Pollutants, asbestos)
- Adresses **Industry relevant issues** (eg. energy-efficient production, logistics, emissions, workplace comfort, ...)
- **Process Quality** consideration
- **Life Cycle Assessment/ Costing**
- **Adaptation to local standards**



DGNB Scheme for Industrial Districts



VOLKSWAGEN Motorenwerk, Chemnitz
DGNB Certificate



DGNB Scheme for Industrial Districts



VOLKSWAGEN Motorenwerk, Chemnitz
DGNB Certificate



*Attractive open spaces for break
(small measure – big impact)*



DGNB Scheme for Industrial Districts



DGNB

Deutsche Gesellschaft für Nachhaltiges Bauen
German Sustainable Building Council

Lune Delta, Bremerhaven
DGNB Certificate



S, M, L, XL options for Industries



DGNB Scheme for Industrial Districts



Lune Delta, Bremerhaven
DGNB Certificate



Working with nature



DGNB Scheme for Industrial Districts



DGNB

Deutsche Gesellschaft für Nachhaltiges Bauen
German Sustainable Building Council

Daimler Evo-Bus, Neu-Ulm
DGNB Certificate



Adaptability to demand in space



Part II – SIZ Signature and USP

09:40 – 10:10

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DRIVERS OF SUSTAINABLE INDUSTRIAL ZONES



Industrial Space ESPACIO INDUSTRIAL

A thriving economy + historically low interest rates are driving housing demand in major cities and metropolitan areas, reducing space for Industrial Zones close to cities.



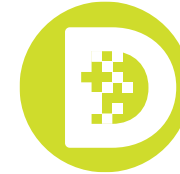
Mobility & Logistics MOVILIDAD & LOGISTICA

Dieselgate is promoting environmentally friendly logistics and mobility (geared towards freight, public transport, e-mobility, cycling, on foot). New logistics. Industrial Zones with intelligent mobility



Energy Transition ENERGÍA SOSTENIBLE

Energy transition from fossil / nuclear to renewable energies. Decentralized energy concepts at the Industrial Zone level for a clean and environmentally friendly, almost zero-emissions city.



Digitalization DIGITALIZACIÓN

Sustainable Industrial Zones are in need for more digital solutions. Real estate industry is taking the first steps towards "smart" in order to become integrated and digital, Industries need to follow



Climate Change CAMBIO CLIMATICO

Climate emergency and related public interest in e.g. CO2 emissions. UN climate protection goals and the 2030 Agenda as clear signposts

Integrated, data-based Sustainable Industrial Zones

DRIVERS OF SUSTAINABLE INDUSTRIAL ZONES



Industrial Space ESPACIO INDUSTRIAL

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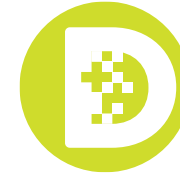
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Integrated, data-based Sustainable Industrial Zones

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für Internationale
Zusammenarbeit (GIZ) GmbH



Logistic concepts

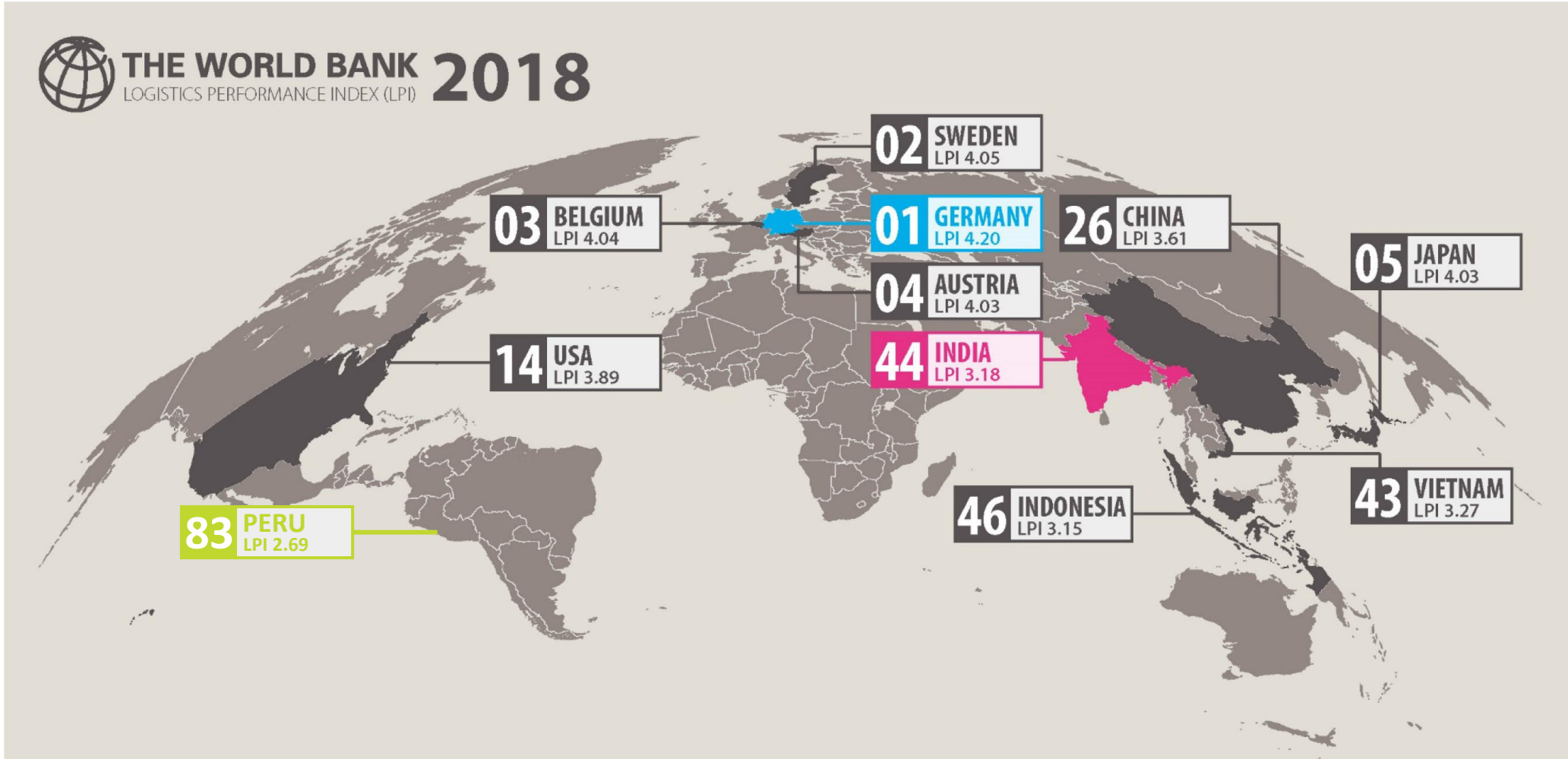
12th of May 2021

Report
Version 01

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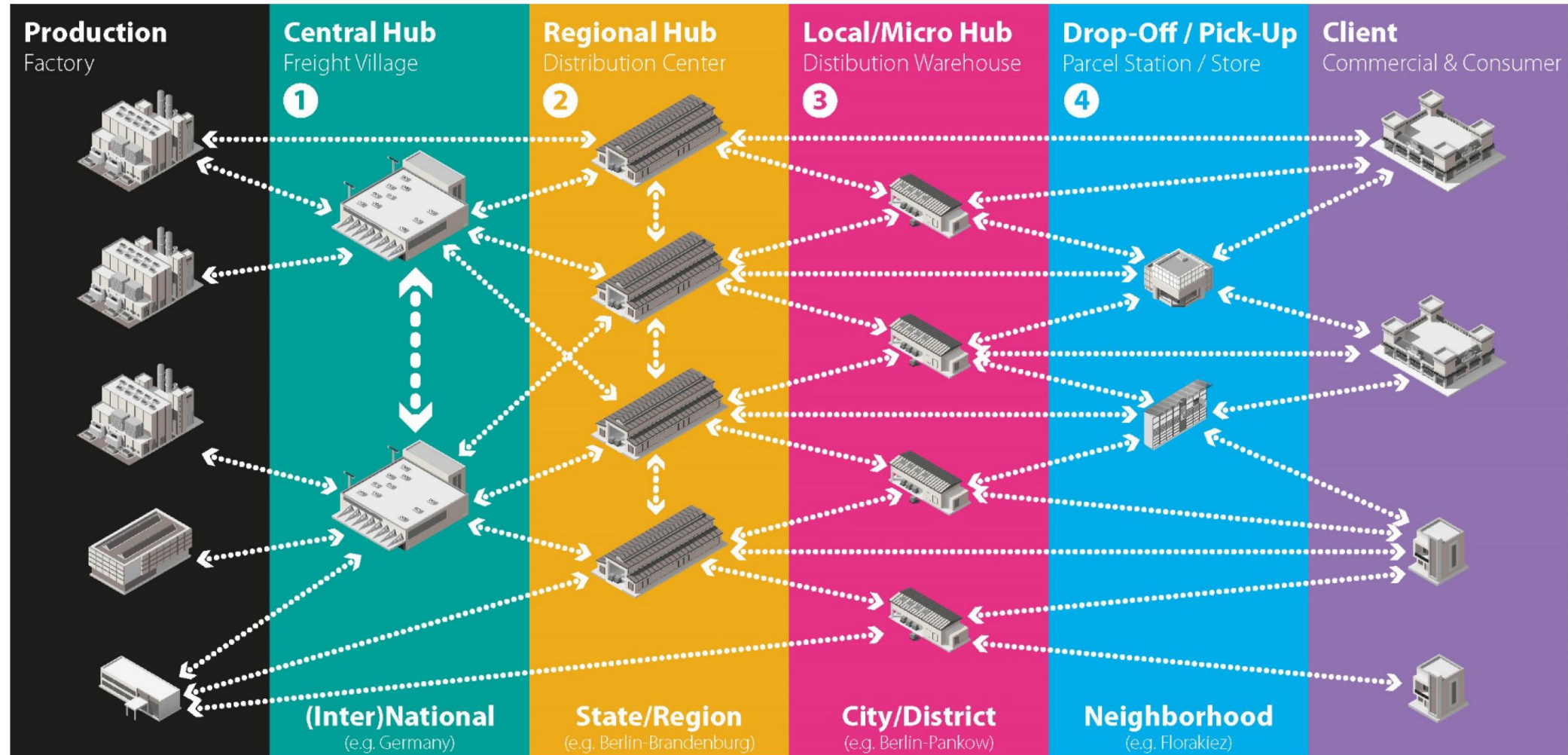


Introduction



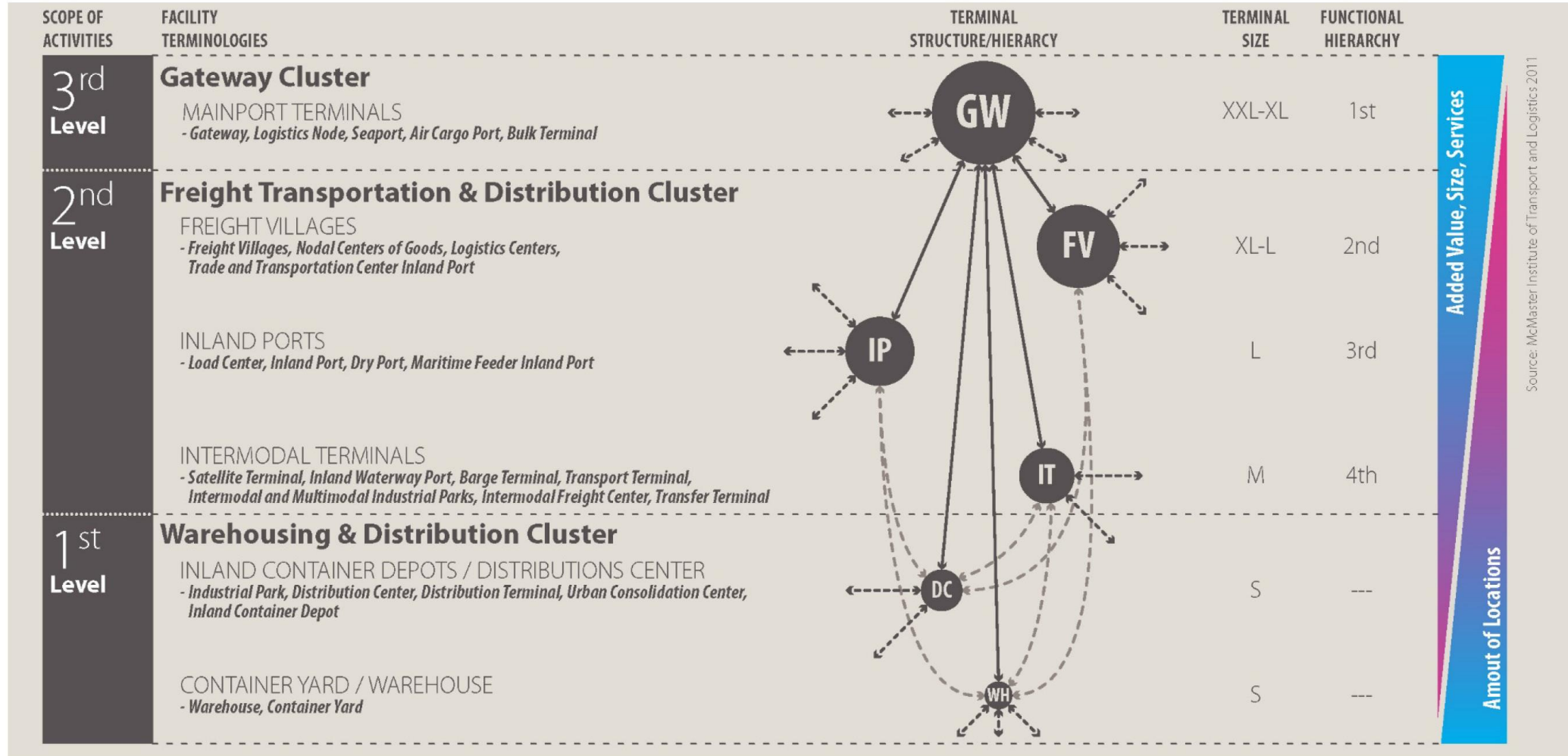
Logistics in Europe

Logistics networks – distribution systems



Logistics in Europe

Logistics networks – logistics hubs



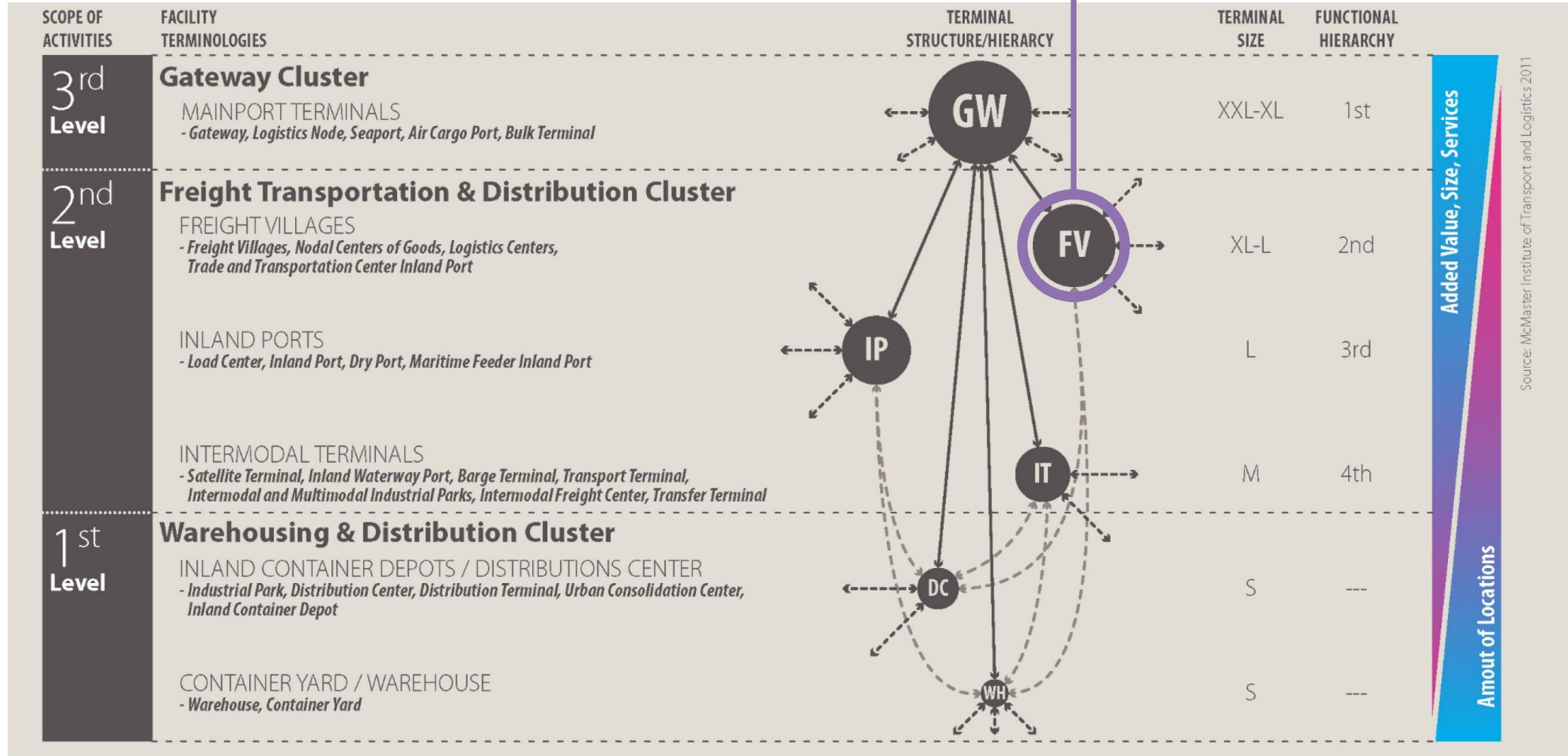
Added Value, Size, Services

Amount of Locations

Source: McMaster Institute of Transport and Logistics 2011

Freight Villages

FREIGHT VILLAGES (FV) Backbone of German/European Logistics Network



Added Value, Size, Services

Amount of Locations

Freight Villages

Definition

GERMAN FV UNDERSTANDING



...is a commercial construction area where transportation-related businesses, logistics service providers, service facilities, and logistics-intensive industrial are located



*...should include a **transshipment terminal** that offers free access for everyone (can be located nearby)*



*...needs an establishment of **suitable forms of organization** to explore all synergy potentials*



...will reach full efficacy when connected by infrastructure and services with other FV



*...could be **complemented by regional sites** to achieve the broadest possible impact (if traffic volume potential justifies it)*




*...is **connected to multiple modes** of transportation, at least two*



Freight Villages

Differences compared to Freight Distribution Centers

Freight Village (FV)



Focus
- Intermodal Transport

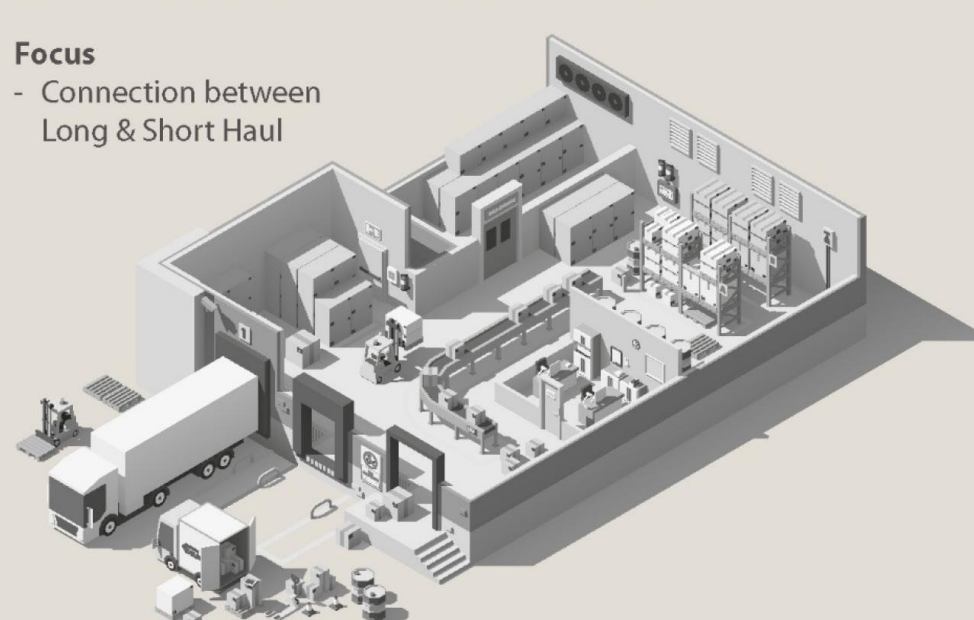
Services

- Loading & Unloading
- Sorting & Picking
- Storing & Distribution
- Transshipment
- Complementary Services
- Multiple Service Provider

Characteristics

- Large plots (up to > 100 ha)
- always intermodal (min. 2 mods)
- Transshipment Terminal
- Connection between Long & Short Haul
- (Inter-)National level

Freight Distribution Center (FDC)



Focus
- Connection between Long & Short Haul

Services

- Loading & Unloading
- Sorting & Picking
- Storing & Distribution
- 1 Service Provider

Characteristics

- Large warehouses
- sometimes intermodal
- Regional & Local Level

Freight Villages

Strategic Goals



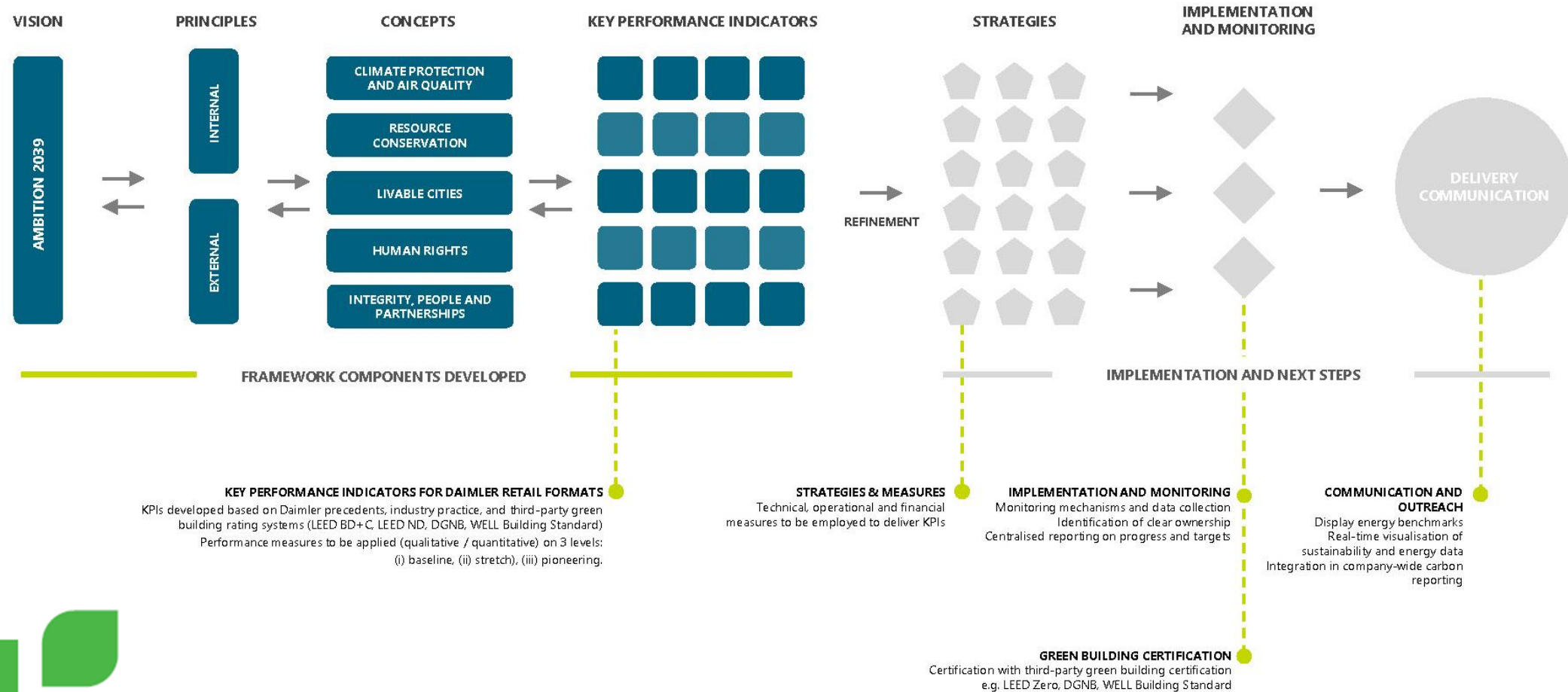
Part III – SIZ Carbon and Payback

10:10 – 10:40

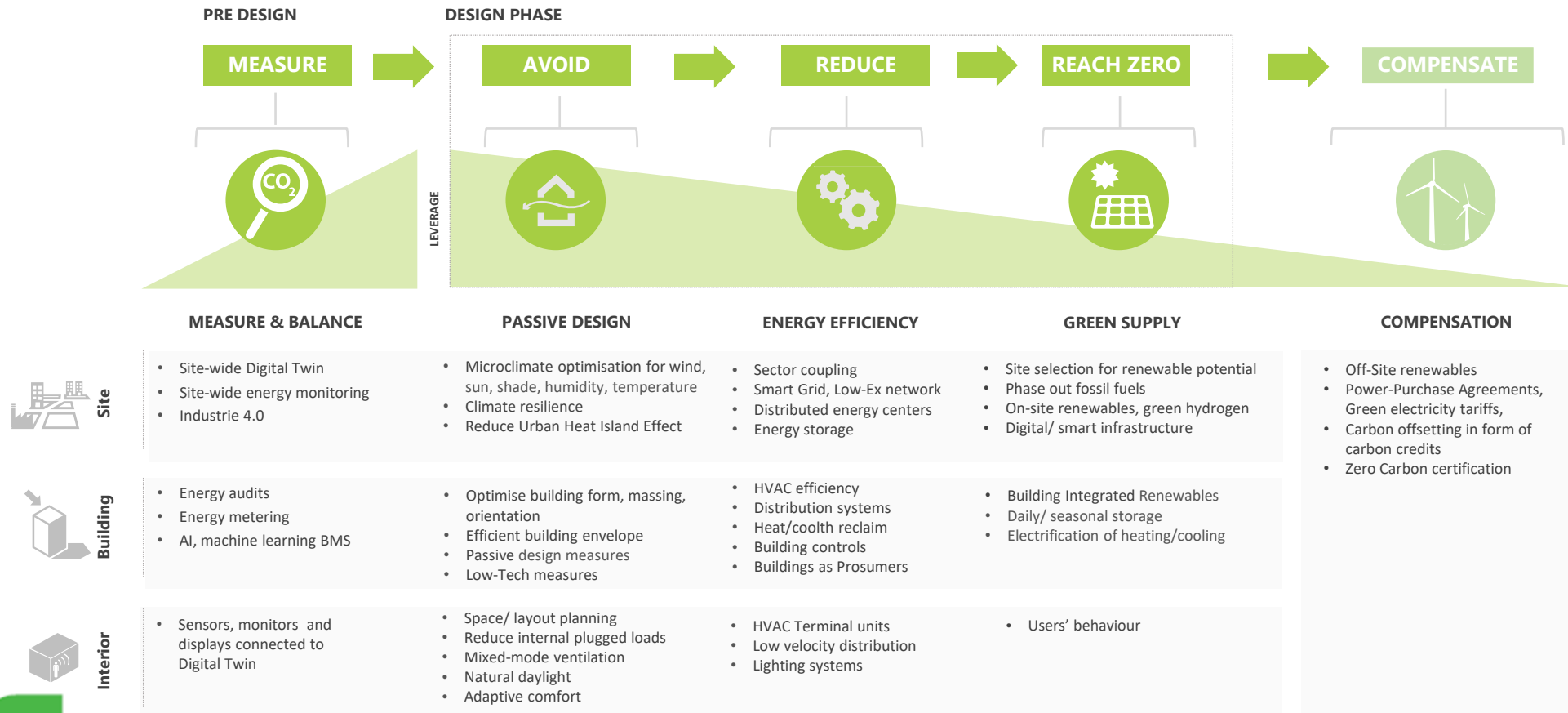
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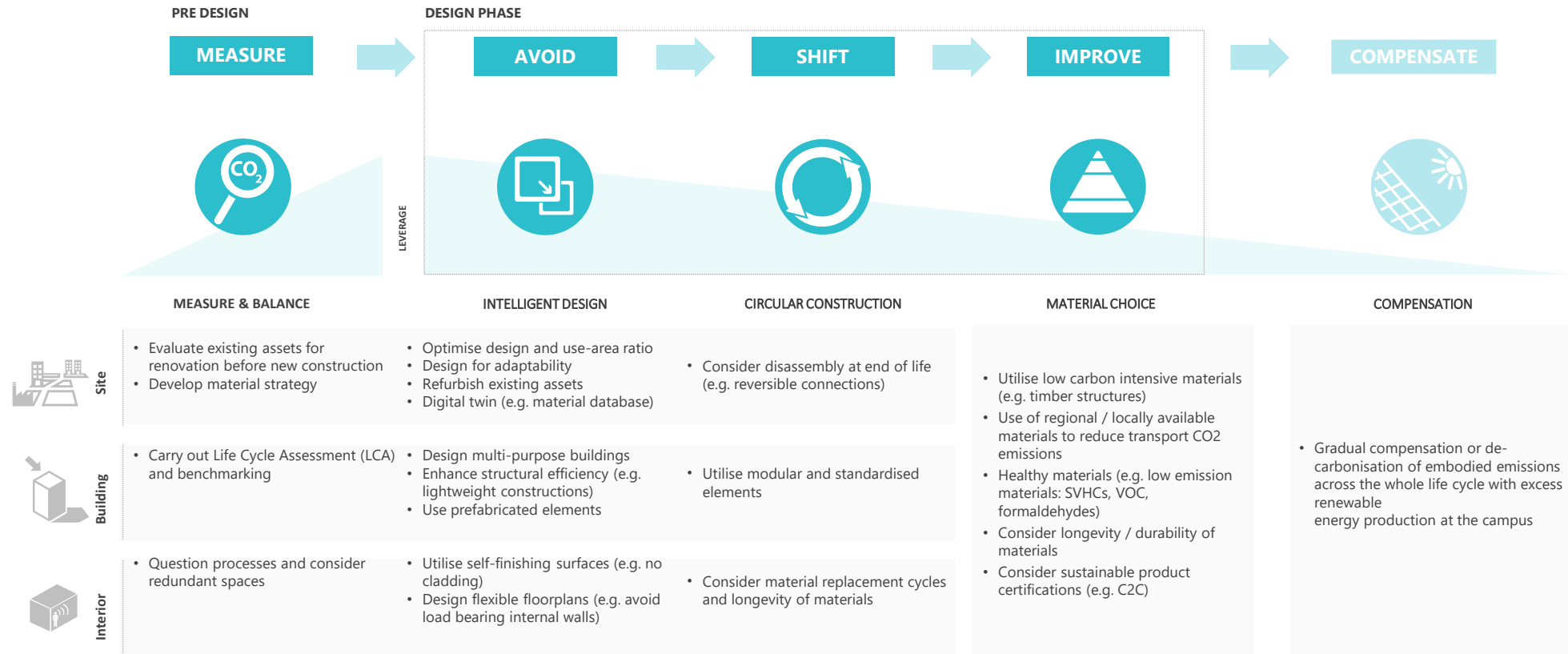
Blueprint Carbon Strategy – example



Carbon Strategy for Green Pharma Parc



Material Strategy for Green Pharma Parc



Part IV – Game of Zones

10:40 – 10:50

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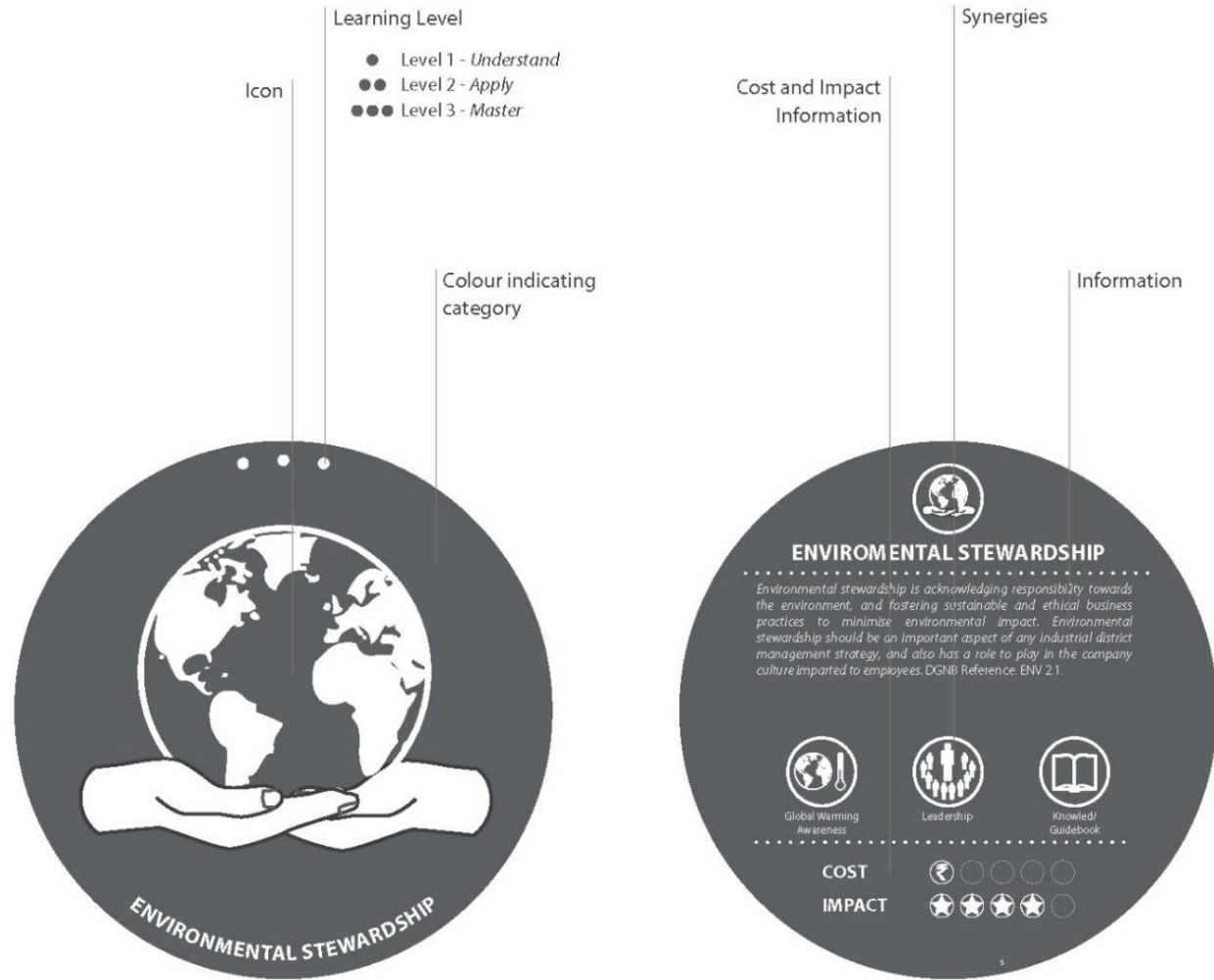
GAME OF ZONES



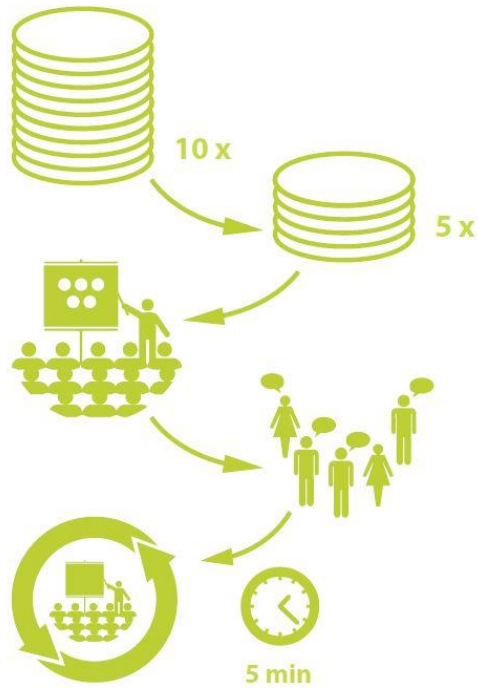
GAME OF ZONES



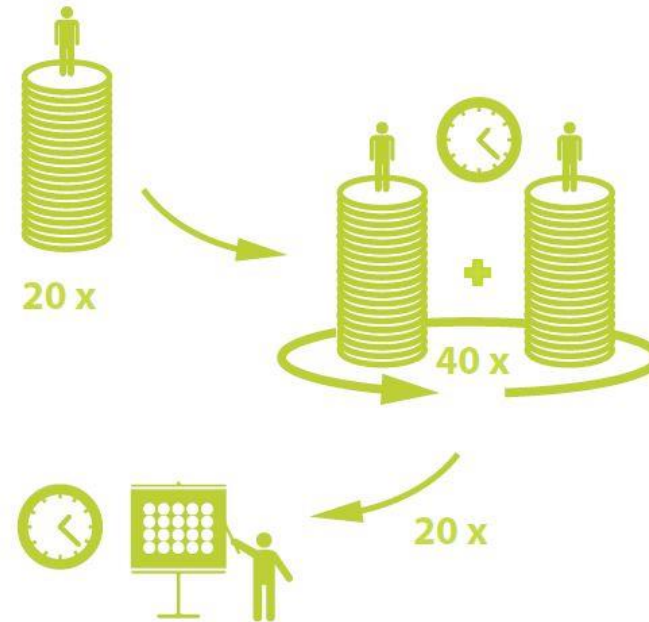
GAME OF ZONES



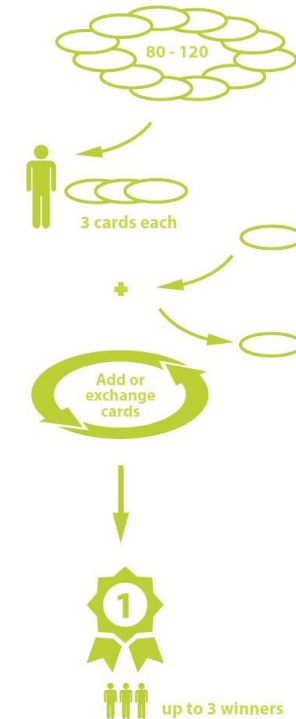
GAME OF ZONES – as decision making tool



GAME OF ZONES



DESIGN YOUR SUSTAINABLE INDUSTRIAL ZONE



INDUSTRIAL POKER



GAME OF ZONES – Practical Application – 2015 for India

GAME OF ZONES – Practical Application – 2015 for India



GAME OF ZONES – Practical Application - India



GAME OF ZONES – Practical Application - India



GAME OF ZONES



BUSINESS INCUBATOR

Larger industrial districts may choose to support, or incubate, small or new businesses which present long-term opportunities for synergy. Business incubation may comprise providing a start-up with space on an industrial park; advising the founders, providing seed funding or collaborating on a pilot project.

Business Clustering Seed Funding Diversification

COST ₹ ₹ ₹ ○ ○

IMPACT ★ ★ ★ ○ ○

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GAME OF ZONES



POLLUTER PAYS PRINCIPLE

The Polluter Pays Principle is an aspect of environmental law which holds parties responsible for environmental damage caused by materials production, distribution or disposal. This "eco tax" is designed to lower greenhouse gas emissions and otherwise encourage environmental responsibility. It can take the form of financial contributions, as well as waste management "buy back" programs.

Lifecycle Analysis **Producer Responsibility** **Environmental Stewardship**

COST ₹ ₹ ₹ ○ ○

IMPACT ★ ★ ★ ★ ○

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GAME OF ZONES



JOINT PURCHASING

Joint purchasing is a type of cooperation between two organisations, in which they create a purchasing group to buy supplies at a higher volume, and thus at a lower price. By increasing the scale of operations, joint purchasing can lead to cost savings and efficiency, although it can also reduce flexibility.

Joint Ventures Sustainable Procurement Business Clustering

COST ₹ ○ ○ ○ ○ ○

IMPACT ★ ★ ★ ○ ○

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GAME OF ZONES



LEAN MANUFACTURING

Lean Manufacturing is a business improvement tool that seeks to eliminate waste within the manufacturing process. The school of thought seeks to reduce all the "unnecessary" portions of a process or product, to focus on what adds the most value for the customer. The essence of "lean" manufacturing is both understanding customer interests and delivering the product efficiently and profitably.

Rapid Prototyping **Industrial Park Business Strategy** **By-Product Connections**

COST ₹ ₹ ₹ ○ ○

IMPACT ★ ★ ★ ★ ○

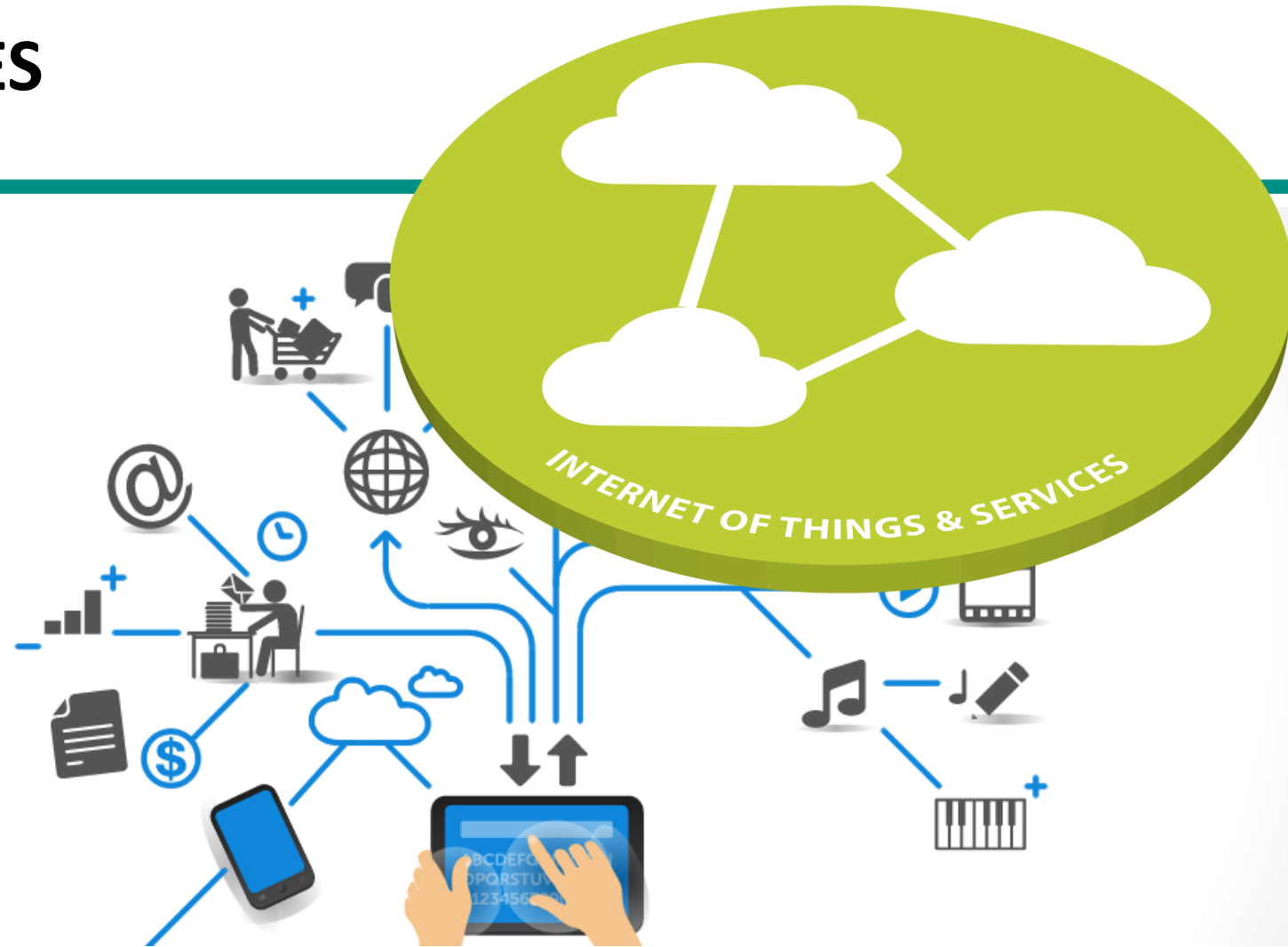
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GAME OF ZONES



GAME OF ZONES



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GAME OF ZONES



CUSTOMER FOR LIFE





honest broker



Close Out / QA

10:50 – 11:00

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Shaping Tomorrow!

We'd love to hear from you

Thomas Kraubitz
thomas.kraubitz@burohappold.com

www.burohappold.com



Zonas Industriales Sostenibles