

INDUSTRY 4.0: CHALLENGES AND OPPORTUNITIES FOR ECONOMIC ZONES

PREPARING FOR WHAT'S NEXT

Prepared for: Africa Free Zones Organization Webinar



ABOUT CONWAY



LEADERS IN GLOBAL INVESTMENT ATTRACTION

Conway the worlds leading global economic development consultancy that works with government and corporate clients to implement better strategies, gain international recognition and awareness and attract investment.

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CONWAY GLOBAL OFFICES

31

REPRESENTED

CONWAY 2019





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CORPORATE CLIENT INVESTMENT

490 BILLION USD

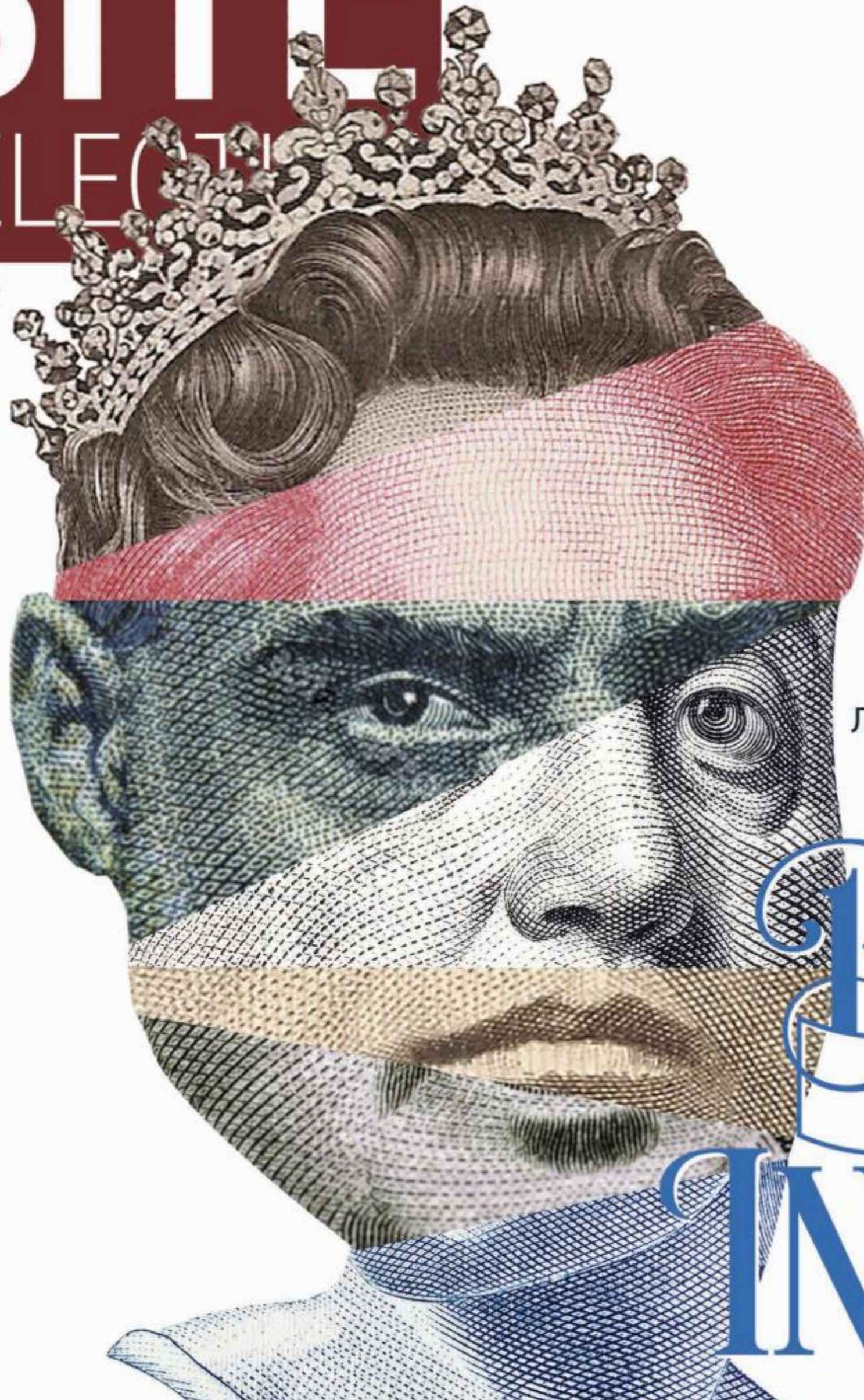
EACH YEAR

CONWAY 2019



SITE SELECTION

May 2018



MEJOR PARA INVERTIR

最佳投资地

الأفضل للاستثمار

PREFERABLE D'INVESTIR

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AM BESTEN ZU INVESTIEREN

ЛУЧШЕ ИНВЕСТИРОВАТЬ

BEST TO INVEST

OWNER OF
SITE SELECTION MAGAZINE

READERSHIP CREATES

272 PROJECTS

CREATED EACH

MONTH

CONWAY

ABOUT CONWAY



1 History of Success
Have worked with thousands of IPA's governments and corporate clients globally with much success over a 65 year period

2 International Talent
Global team of over 150 employees with in-depth investment promotion experience and knowledge in over 31 offices all over the world.

3 Research Driven
Leverage proprietary database and data sources to ensure best in class marketing performance

Innovative Approaches
Leads the industry in pioneering new and better ways to support the corporate expansion process with 7 world class divisions

5 Global Corporate Network
Maintain a global corporate network of over 60,000 corporate executives who invested in over 400 billion dollars in locations all over the world

6 Results Oriented
Evaluate consulting value and assign agreed upon ROI measures to client projects

4

5

6



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INDUSTRY 4.0

AN INTRODUCTION



THE 4th INDUSTRIAL REVOLUTION

DEFINING REVOLUTIONS

Revolution	Year	Information
	1	1784 Steam, water, mechanical production equipment
	2	1870 Division of labour, electricity, mass production
	3	1969 Electronics, IT, automated production
	4	? Cyber-physical systems

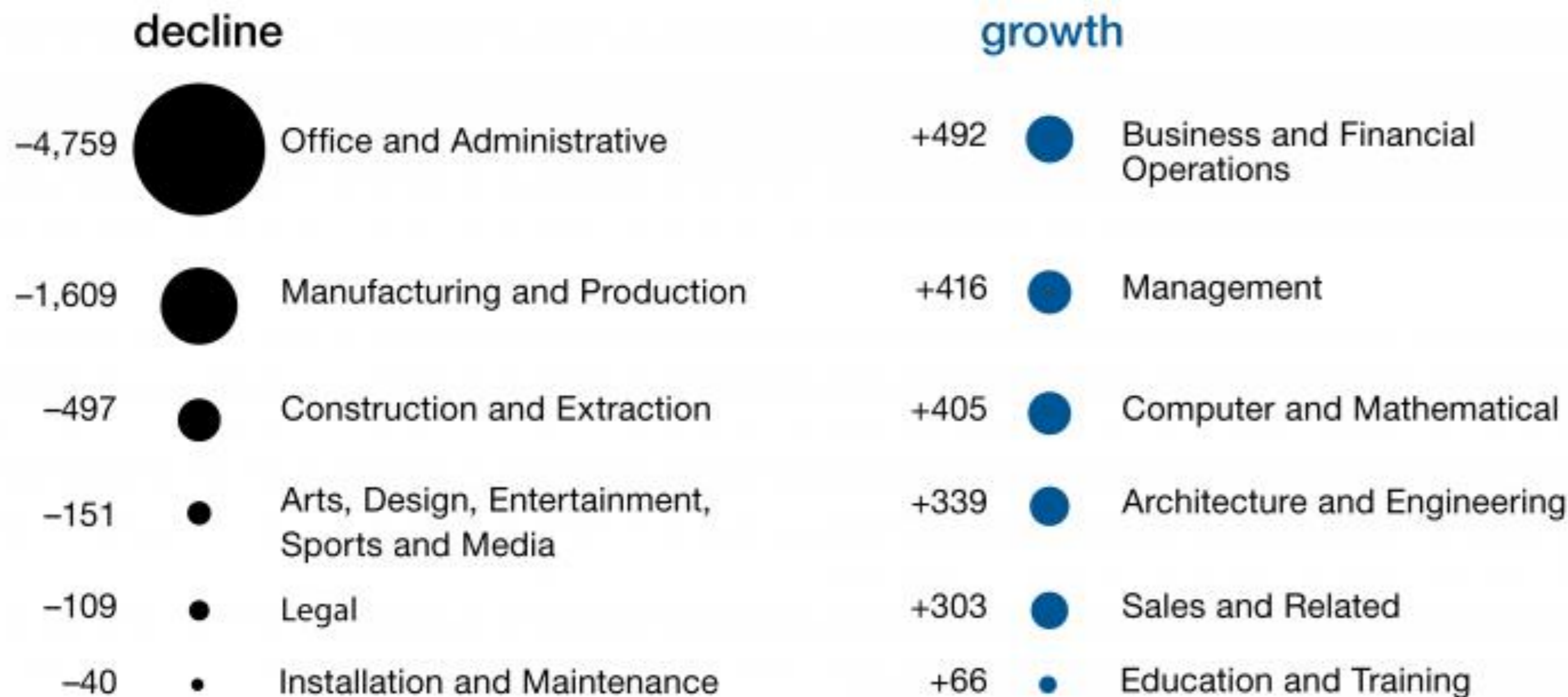
Common denominators of industrial revolutions:

- Advent of new **breakthroughs** and **routines**, involving entirely new capabilities for people, systems, and machines.
- **Disruption** of current relationships among people as well as of entire societies.

Source: World Economic Forum (2016) "What is the fourth industrial revolution?"

THE 4th INDUSTRIAL REVOLUTION

CHANGE IN LABOR FORCE OUTLOOKS



NB Jobs change in thousands, 2015-2020, across major economies

Source: World Economic Forum (2016) Future of Jobs Report

THE 4TH INDUSTRIAL REVOLUTION CHANGE IN SKILLS

in 2020

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

in 2015

1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity

Source: World Economic Forum (2016) Future of Jobs Report



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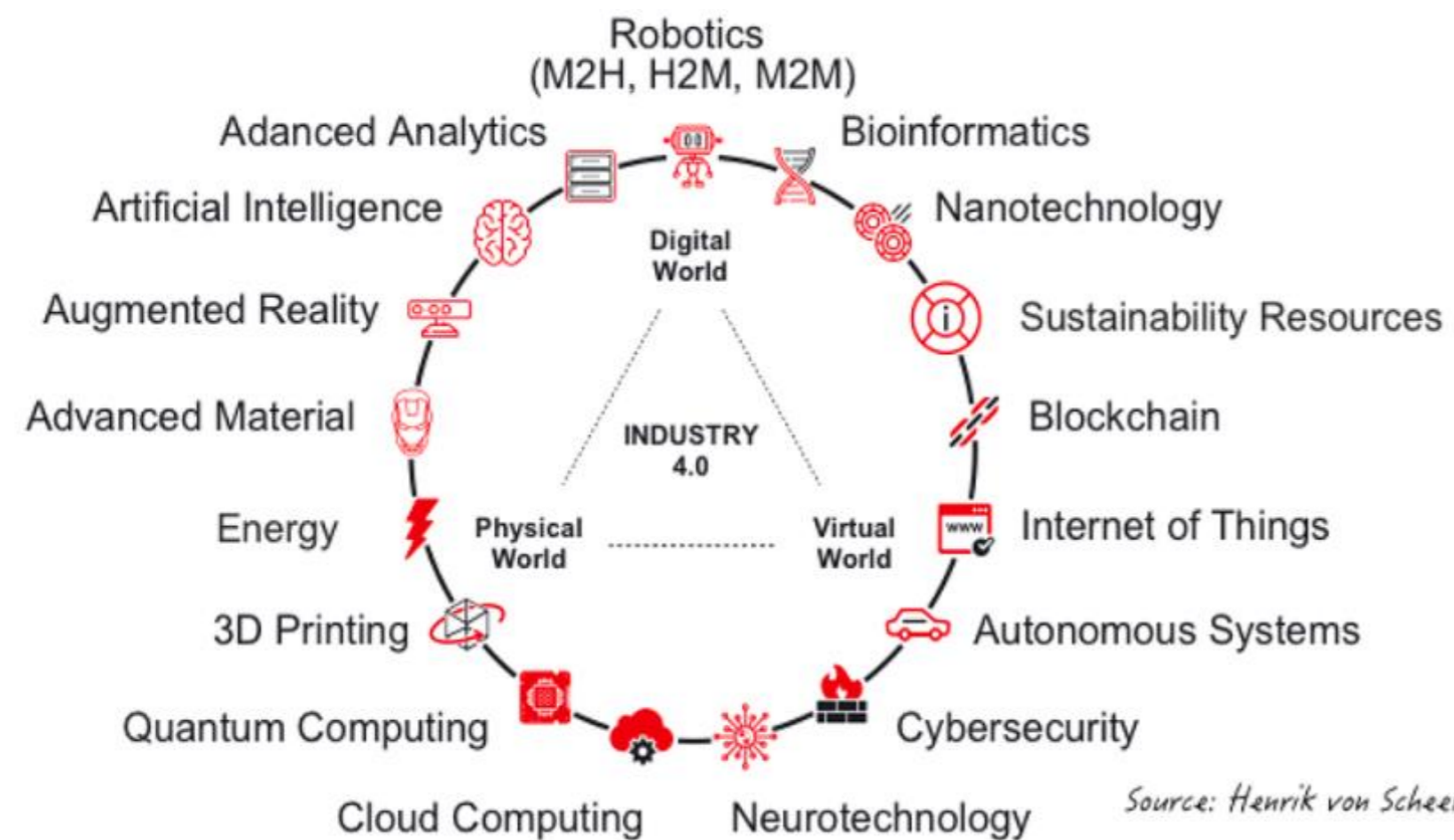
INDUSTRY 4.0 NEW OPPORTUNITIES



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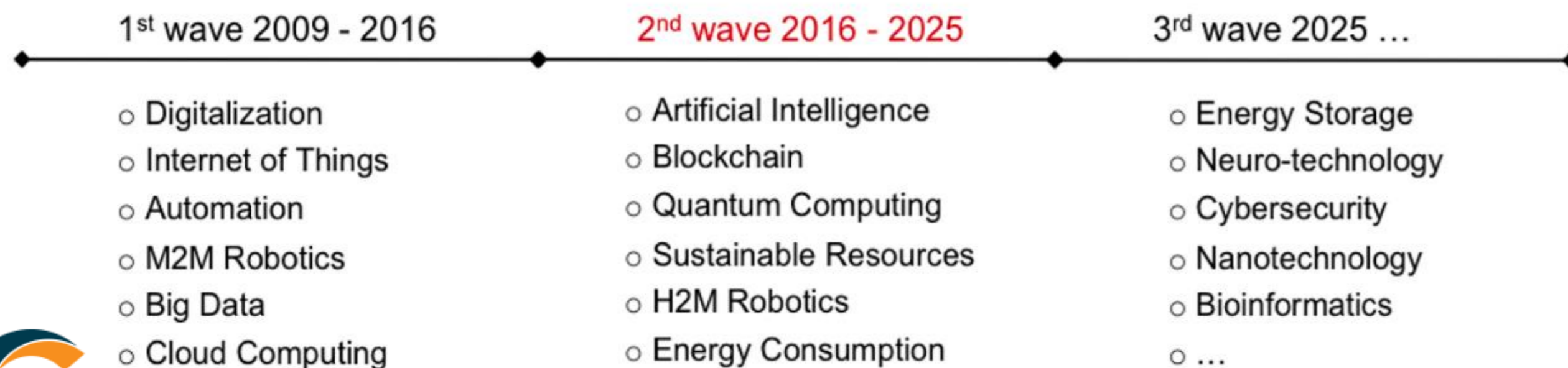
THE 4th INDUSTRIAL REVOLUTION

NEW OPPORTUNITIES FOR PREPAREDNESS



Every single “target” sector or industry is likely to be affected by the 4IR – though in varying degrees and with different outcomes

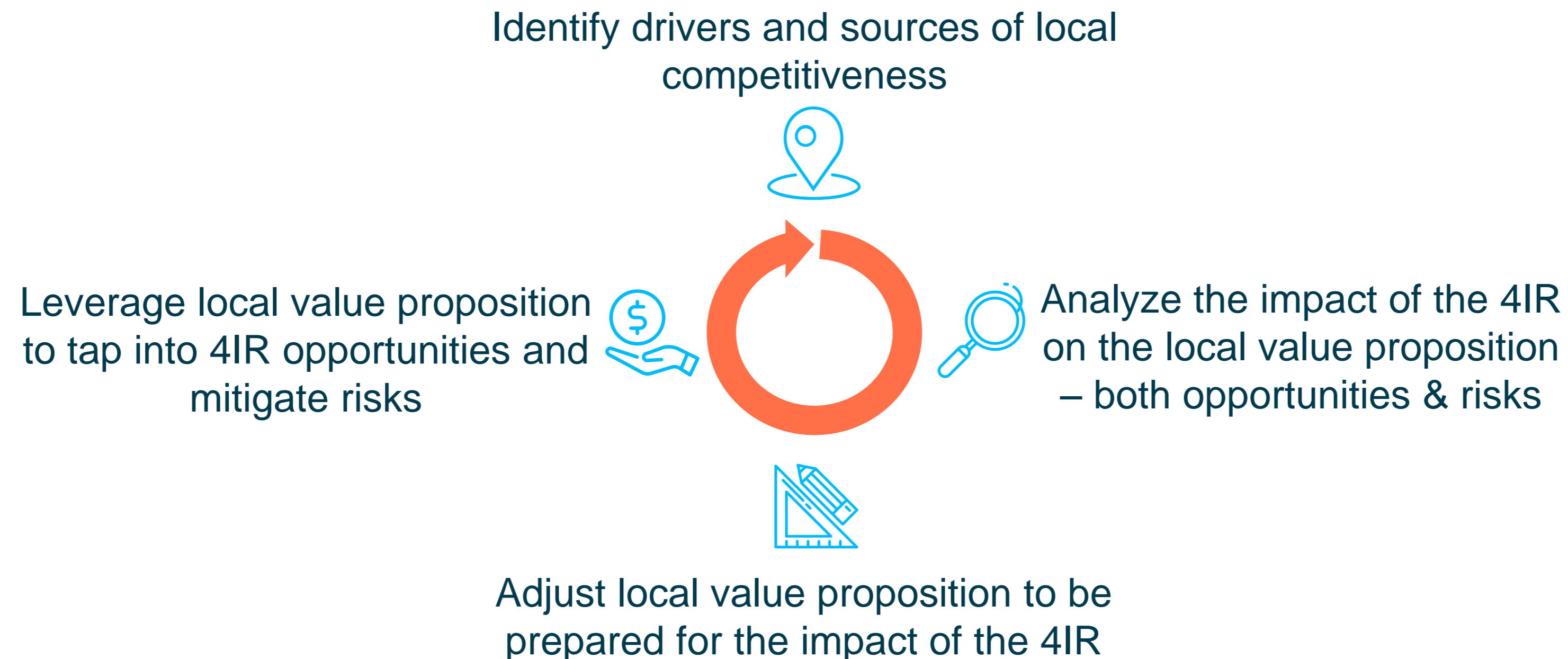
Source: Henrik von Scheel



THE 4th INDUSTRIAL REVOLUTION

A ROADMAP FORWARD

The exact scope, breadth, and depth of the 4IR remain unclear - though it is certain it will drastically **impact** and **disrupt** the current economic landscape, competitiveness, and investment opportunities, and, therefore, investment promotion efforts of IPAs.



THE 4th INDUSTRIAL REVOLUTION REFLECTION QUESTIONS

- In order to prepare for the 4th Industrial Revolution, your free zone should reflect on the following questions:
 - How does the 4th Industrial Revolution disrupt and transform your (traditional) target sectors & industries?
 - How does this impact your local value proposition?
 - How does this impact your investment promotion efforts?
 - How does the 4th Industrial Revolution impact your competitiveness and employment?
 - How should your organization prepare in order to mitigate risks while simultaneously tapping into opportunities emerging from the 4th Industrial Revolution?

THE 4th INDUSTRIAL

REVOLUTION

REFLECTION QUESTIONS



CONWAY'S 3 STEP PROCESS

Matching the local value proposition with target industries and sectors that pose the most promising investment opportunities due to disruption of the 4IR

STEP #1

Construct the **local value proposition** which is composed of the interaction between local economic, physical, network, and human assets. This, in turn, are the sources of the location's competitive advantages and unique selling points.

STEP #2

The local value proposition determines the **target sectors & industries** that could be promoted in order to attract investment into the location.

STEP #3

Identify how the **4th Industrial Revolution** (a) disrupts your location's target sectors & industries and (b) in which growth vectors this translates to develop a targeted attraction strategy and communication strategy + communication plan..



INDUSTRY 4.0
Impact on Businesses & FDI

FOSTERING INNOVATION

CRITICAL CONDITIONS

- Pre-conditions for fostering any type of innovation:
 - National **absorptive capacity** in order to transmit knowledge. and technologies:
 - Skills level in the economy
 - National research and development efforts and technical workforce
 - Firms to finance their innovation and R&D
 - **Linkages** with the domestic economy.
 - Backward linkages
 - Free movement of labor
 - Reforming the business climate
 - Importance of a **strategic location** as firms in a city or semi-urban area have easier access to the key ingredients necessary to facilitate the innovation process (i.e. firms, capital and skilled labor).

FOSTERING INNOVATION

CRITICAL CONDITIONS

A ideal-typical approach to develop technological capabilities to foster innovation and move up the value chain consists of three steps:



The first step is to develop world-class infrastructure and business environment, which is the more important given the fierce international competition for global investment in high-tech & innovative sectors.

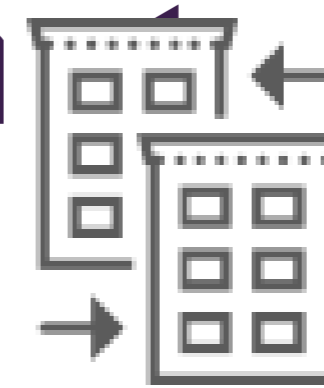


The second step is to develop labor-intensive activities linked to domestic production capabilities, which includes intense learning and an increase of basic technological capabilities. The second step also consists of reforming the national business environment by upgrading local skills and (re-)designing policies focused on education and innovation.



The third step includes transitioning to high(er) technology sectors. The growing linkages with domestic firms leads to greater competitive pressure, which in turn stimulates technological upgrade.

How does Industry 4.0 Impact Business Models?



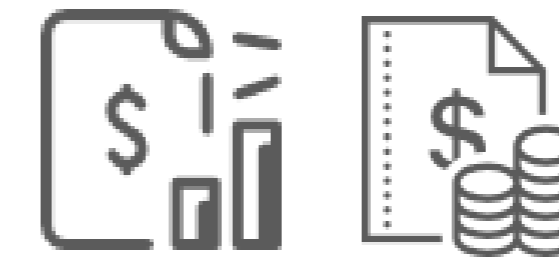
Some of the trends we have been witnessing:

- Faster time-to-market
- Lower transaction costs
- Move from centralized → decentralized supply chains
- Move from product-centred → customer-centred
- Move from cost based business models → innovation-based business models

- After sales & knowledge intensive service increase in importance
- Companies are more likely to produce closer to home as automation replaces the need for low skilled workers.



How does Industry 4.0 Impact the future of FDI?



Innovations will impact the due diligence process by changing which indicators are used to make short- and medium-term decisions.

- Industry 4.0 makes the benefits of inexpensive labour in developing countries less relevant.
- High-skilled human capital will become more relevant.
- **Greater automation will displace lower-skilled labour but increase the demand for higher-skilled labour.**

- FDI may increase in locations with a higher agglomeration of technological capabilities: the availability of a technology-savvy workforce and policies that encourage innovation.
- **Similarly, also governments will need to adapt their policies to secure that they apply investor & innovation friendly regulations: openness of the economy, incentives for innovation through R&D, availability of adequate telecom infrastructure etc..**





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INDUSTRY 4.0

How Should Economic Zones Adapt



How should Economic Zones adapt?

In the age of technological disruptions and the speedy rate of Industry 4.0, Economic Zones have an opportunity to leverage.

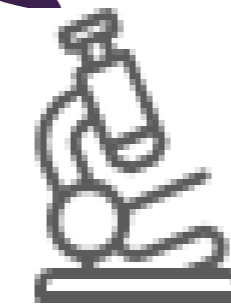
Solution: Developing Agile Economies that embrace Innovation

How?

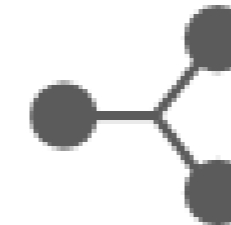
1. Investor friendly financial and operational regulations
2. Fostering inter-industry linkages
3. Increasing efficiency along entire local supply chains
4. Establishing pilot programs necessary for R&D
5. Implementing talent attraction programs



How should Economic Zones adapt?



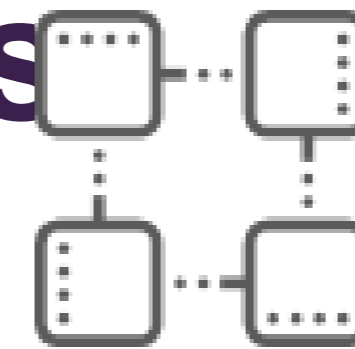
1. Investor friendly financial and operational regulations
 - Providing tax credits and other financial incentives to reduce the risk of innovation and support company R&D spending
 - Investing in new manufacturing technology to be shared across companies present in the zone



2. Fostering inter-industry linkages
 - Free zones naturally develop a competitive environment through hosting multiple companies from similar industries
 - Creating linkages (through conferences/events) to establish knowledge sharing and industry collaboration



How should Economic Zones adapt?



3. Increasing efficiency along entire local supply chains
 - Creating linkages to establish training and collaboration between foreign firms, local firms and foreign and local talent.
 - Companies within proximity to their supply chains (producers & consumers) speed up the innovation process by quick market times, quick feedback mechanisms and quick adaptability back into market
4. Establishing pilot programs within the controlled environment of the free zone
 - Customers, governmental agencies, supply chain partners, and free zone innovation champions can participate in an iterative process of refinement, feedback sharing and engaging in direct design workshops.
 - Free zones have a unique advantage in providing territories of controlled conditions where high-risk and high-reward experimentation can be undertaken rapidly



How should Economic Zone adapt?



5. Implementing talent-attraction programs

- Access to talent is a high determinant of innovation and technological advancements and disruptions
- Free zones can operate one-stop service shops and fast relationships with government entities to provide the right visa support services, and welcoming and integration services.
- Training local labour



INDUSTRY 4.0 & Economic Zones

Examples



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Examples - Incentives

- Italy boasts Super Depreciation and Hyper Depreciation capital allowances programs:
 - Allow companies to add 40 percent to the acquisition cost of qualifying i4.0 intangible assets
 - Allow companies to add 150 percent to the acquisition cost of qualifying i4.0 tangible assets
- Singapore has sought to promote investments in i4.0 technologies, including the Internet of Things (IoT), advanced analytics, artificial intelligence, robotics, 3D printing, and other smart manufacturing technologies intended to build new technical capabilities, develop new technologies and products, and increase productivity and manufacturing competitiveness.
 - Projects and investments that are aligned with these goals may also qualify for incentive support
 - R&D tax deductions at 2.5 times the expenditure
 - 200 percent tax allowances on qualifying IP registration and in-licensing cost — accelerated tax depreciation on computers and machinery that meet automation and clean-manufacturing standards
 - Concessionary tax rate incentives ranging from 0 percent to 10 percent on qualifying income for i4.0 and advanced manufacturing investment in Singapore.

Examples - Operations

Dubai Multi Commodities Centre:

In 2016, DMCC transitioned into a complete online and paperless digital process for all member companies to improve efficiency and enhance connectivity. Since then, more than 8000 contracts have been delivered using e-signatures.

The zone works through an online portal that streamlines all Free Zone services including registration and licensing.

Investors can also use the DMCC Business Apps Manager, which offers a range of connected apps for SMEs to ensure compliance with UAE regulations. The app manager includes tools for accounting, human resources, customer relationship management and scheduling.

DMCC is a member of the Global Block-chain Council with various government agencies, international companies and banks, to discuss and implement the use of block chain for the future of business throughout Dubai.

The zone, in partnership with Google, provides a tech-center, with high-speed Internet, multiple screen-setups for serious programming, a mobile-device lab training programs in digital disciplines such as analytics, big data, digital marketing and programming.

Examples - Training

- For the third year in a row, Colombia's Zona Franca Santander has been recognised for its efforts in education and training. Three on-site universities are located in the park.
 - “Companies based at Zona Franca Santander in Colombia can participate in strategic training and networking events at special rates. Employees of companies based in the zone can also access the services of three on-site training institutions, where more than 500 people were trained in 2017”.
 - The conviction about the importance of the human value for the sustainable development of the region was Zona Franca Santander's motivation to build an environment for public and private organizations, with the purpose of generating opportunities of decent, quality and stable jobs where workers can grow personally and professionally alongside with innovations, learning and enjoyment while the workday goes on.
- The bilingualism programme on offer at Zona Franca de Bogotá in Colombia trains about 500 people annually, and offers BPO investors a large pool of talented and trained workers. An alliance exists with six universities, offering 35 training programmes to provide suitable staff for investors.

Examples – Smart City Concepts

- Songdo International Business District
- SIBD is a smart city built from scratch and located in the Incheon Free Economic Zone in Seoul, South Korea.
- Computers are built into the buildings and the streets.
- Sensors gather information on traffic flow and energy use is converted into information to inform citizens about their travel routes or police whenever a crime is taking place.
- The city built using strategies designed to minimize ecological impact and maximizing energy independence and efficiency



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