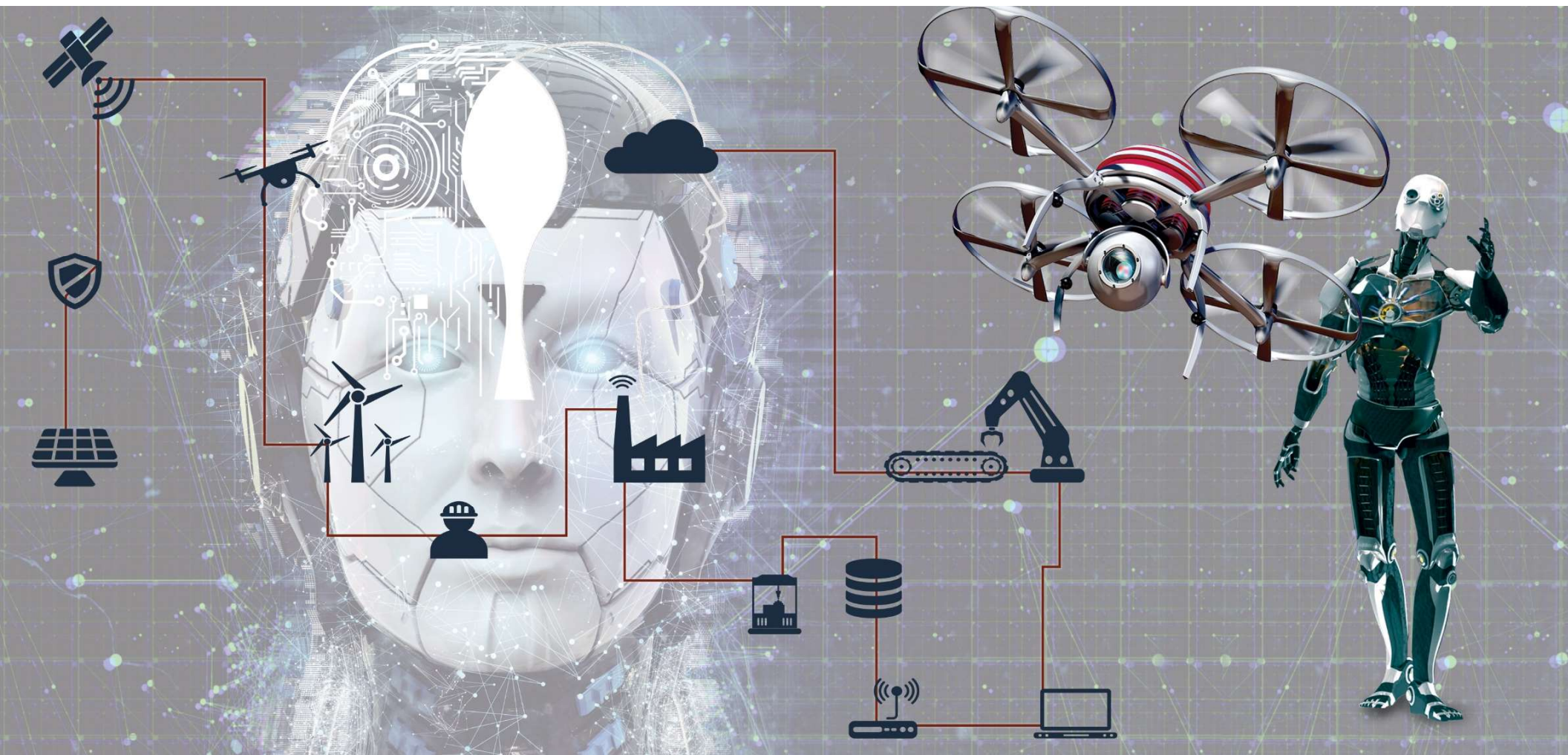


# PC4IR SIP – 4IR Industry 4.0 Implementation



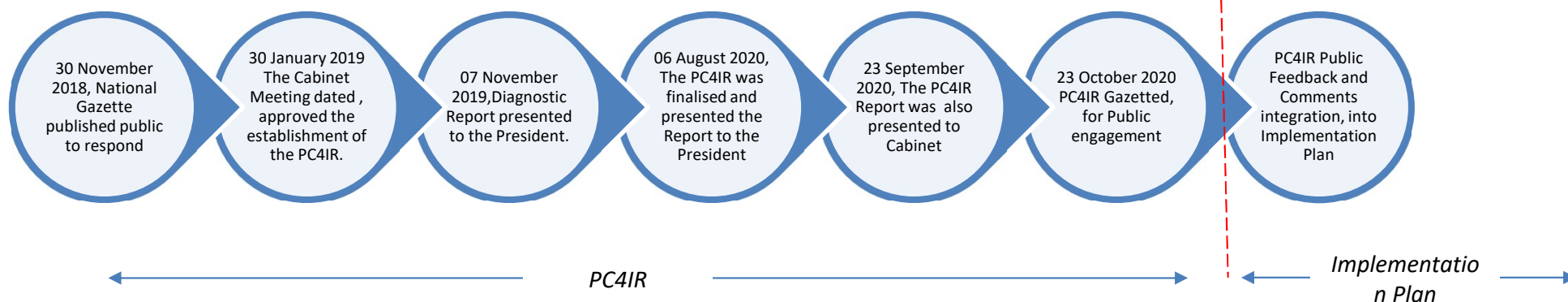


# Content

- **Background**
- **Where Are We**
- **Environment**
- **Approach Towards 4IR Implementation**
- **Industry 4.0 and Economic Sectors**
- **Next Steps**

# Background

We are here





# PC4IR KEY RECOMMENDATIONS

- 1 Investment in human capital;
- 2 The establishment of an artificial intelligence (AI) Institute;
- 3 The establishment of a platform for advanced manufacturing;
- 4 To secure and avail data to enable innovation;
- 5 Incentivise future industries, platforms and applications of 4IR technologies;
- 6 Build 4IR infrastructure;
- 7 The review and amendment (or create) policy and legislation;
- 8 Establish 4IR Strategic Implementation Coordination Council

*The vision of the PC4IR Strategic Implementation Plan is for South Africa to have a **globally competitive, inclusive and shared economy** with the **technological capability and production capacity** that is **driven by people** harnessing the Fourth Industrial Revolution to propel the country forward towards its social and economic goals.*



# South Africa Competitiveness Ranking

Global Competitiveness Index 4.0 2019 edition

Rank in 2018 edition: 67th/140

**Performance Overview Key** ◇ Previous edition ▲ Upper-middle-income group average □ Sub-Saharan Africa average  
2019



## Factor Driven

1. Institutions
2. Infrastructure
3. ICT Adoption
4. Macroeconomic Stability
5. Health
6. Skills

## Efficiency Driven

7. Market size
8. Financial system
9. Labour market
10. Product Market

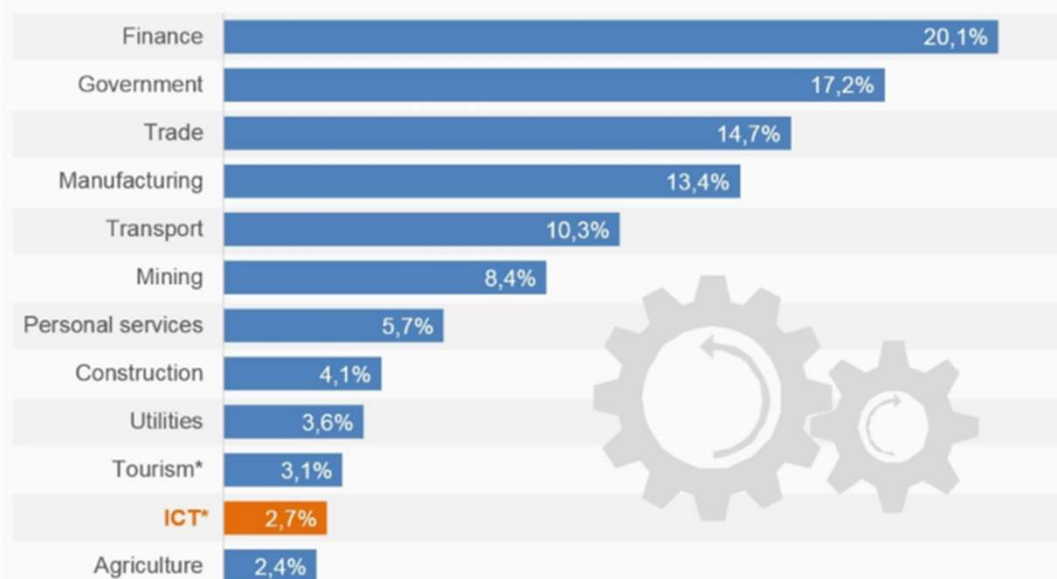
## Innovation Driven

11. Business Dynamism
12. Innovation Capacity

# Economic Sectors

## The ICT sector is larger than the agriculture industry

Percentage contribution to South African economic activity, 2014



\*Tourism and ICT are referred to as sectors as they are not listed as one of the 10 industry divisions in the international Standard Industrial Classification (SIC) system  
Sources: Information and Communication Technology satellite account for South Africa, 2013 and 2014; Gross domestic product (GDP), Q4 2016

- ICT higher than Agriculture but smaller shy of tourism.
- 4IR position the ICT sector to play a meaningful role in the transformation of the South African Industry.
- COVID-19 demonstrate that South Africa is able to exploit the potential Of ICT.
- South African ICT infrastructure in the publics sector is under-utilised to enhance service delivery, dealing with Bureaucratic and to fight corruption.

# Environment



Cynicism continues to rage as many are saying the poorer households are yet to experience 2<sup>nd</sup> Industrial Revolution i.e electricity



What is the SA work force skill level in past five years and now and how will they be able to adapt to opportunities presented by 4.0



As the fear of loosing grips in many are asking the question as to what should Universities teach to cater for the 4.0

# PC4IR SIP Approach

1

Define Objectives and Vision.

***"South Africa will have a globally competitive, inclusive and shared economy with the technological capability and production capacity that is driven by people harnessing the Fourth Industrial Revolution to propel the country forward towards its social and economic goals." (PC4IR Report 2020)***

2

Framework to identify programmes and social incentivize for adoption of 4IR Technologies

3

South Africa 4IR Readiness

4

Current & Planned Infrastructure Programmes

5

Training Skills & Reskilling required

6

Government Digitization, How can Government Start implementing 4IR

7

Key Economic Sectors, 4IR Application . Health, Agriculture, Services, Manufacturing,

8

R&D and Markets

9

Coordination structure & monitoring and Evaluation

Coordination, Engagement and monitoring

Innovation, Commercialization and internationalization

Industry 4.0

Government Digitization

Human Capital 4.0

Digital Infrastructure

4IR Enabling and Precursors

SA 4IR Strategy



# INDUSTRY 4.0 (Health)



## Challenges

- Numerous quality challenges, inefficient service utilisation, limited resources and inadequate referral procedures, they are exacerbated by the high burden of the need of healthcare service and significant inequality between the public and private health sectors.

## Current Interventions

1. Implementation (NHI),
2. Integrated Cloud Data Systems

# INDUSTRY 4.0 (Agriculture)

## Challenges

- The critical challenges that the sector is faced with are climate change,
- water crisis,
- Land restitution,
- pest controls,
- soil degradation, increase in farming costs and job losses.

## Current Interventions

1. Climate Smart Agriculture (CSA) Strategic Framework
2. Conservation Agriculture Policy
3. Land Redistribution
4. Small Farmers Support Programmes



# South African Agritech Startups

WRITE SOMETHING HERE



**Aerobics**

combines aerial imagery obtained from satellites and drones with machine learning algorithms to provide pest and disease detection.



**Khula**

Supply chain solutions for emerging farmers by connecting them directly to the formal marketplace.



**Lindsay Africa FieldNet**

remote irrigation management solution. Their web portal and mobile application



**AgriSol**

geographical information system that collects grid samples, physical soil data, satellite images and weather statistics.



**Pannar Sprout**

Free mobile app to provide technical support to farmers.



**Livestock Wealth**

Crowdfarming enables small investors to buy physical farm assets livestock.

# INDUSTRY 4.0 (Mining)



## Challenges

- The leading challenges that this sector battles with are job losses, unstable electricity supply and mining accidents.

## Current Interventions

- 1.Mine Health and Safety Inspectorate
- 2.Mining Charter

# INDUSTRY 4.0 (Service)

## Challenges

- The evolving technological innovations which influence business models and operations. Online services require re-positioning of labour resources, therefore manual labour is being replaced by technologies and automated processes. The lack of localisation for demand and supply platforms also cripples these sectors.

## Current Interventions

1. Ecommerce policies under development
2. ICT and Digital Economy Masterplan
3. Growth of e-commerce logistics
4. National Digital Skills Strategy





# INDUSTRY 4.0 (Manufacturing)

## Challenges

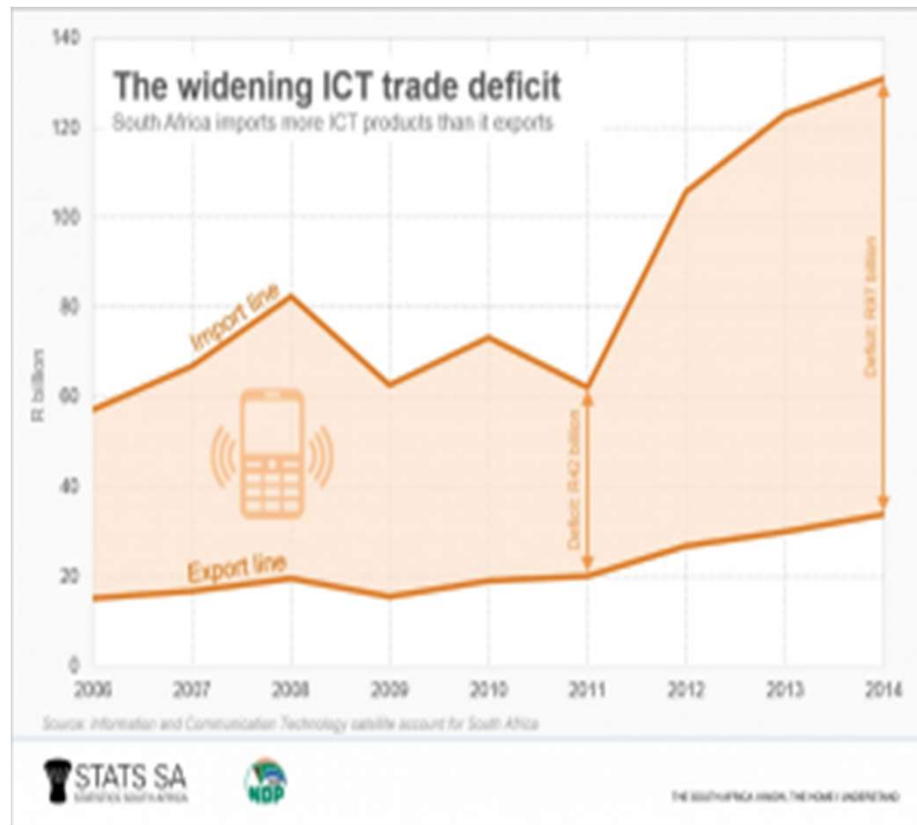
- The manufacturing sector can be described as diverse, but the scale of production is low, lacks competitiveness and its declining, as many South African manufacturers now depend on supply chains from Asia. Manufacturers have also been affected by increased import competition and the volatility of the ZAR and exchange rate.

## Current Interventions

1. The Industrial Policy Action Plan, as well as the Department of Economic Development's New Growth Path, sees an expanded manufacturing sector as the primary and central driver of the economy (DTI, 2013).
2. In response to the steady decline in manufacturing activity, the Industrial Policy Action Plan (IPAP) of the DTIC has a target of 2 447 000 additional indirect and direct job.
3. DTIC learned from a decade of implementing IPAP; and that it robustly removes the key barriers to industrial strategy.
4. DSI AMTS and DTIC Industrial Development Action Plan
5. Established SEZ (Economic Zones)



# ICT Sector and Opportunities



- Overall, South Africa is a net importer of electronics to varying stages of manufacturing complexity.
- Economy of scale, exploit the African Continental Free Trade Area (ACFTA) and Developing a regional and continental e-commerce platforms.
- e-Economic Zone, for affordable phones, computers and electronic recycling, e-forklift, e-bike, and e-scouters.
- Funding of Transformative 4IR technology applications and Platforms.
- Adopt Africa 4IR Open Challenge: Promote and expand the Africa 4IR open challenge: showcase
- e-Government, Digitising Government services.

# INDUSTRY 4.0 (Smart Communities)

## Challenges

- The improvement of cities will further promote inequality challenges, as the development of rural areas will be neglect.

## Current Interventions

1. Smart Community Framework
2. SA Connect Broadband Connection





# INDUSTRY 4.0 (Financial)



## Challenges

- Accessibility, Affordability
- The increased number of cybercrime and security breaches in financial sectors, Financial fees in banking, insurance and investment are a huge cost to the customers.
- Lack of efficient payment platform to facilitate day to day transactions.

## Current Interventions

- IFWG Crypto Assets Regulatory Working Group

# INDUSTRY 4.0 (Education)

## Challenges

- Accessibility and Affordability
- The South African public education system is severely strained in equipping learners with creative thinking, digital and entrepreneurship skills to contribute to the economy.

## Current Interventions

1. Develop minimum infrastructure policy
2. Cross-cutting zero-rated online e-learning platforms.
3. 4IR HUBS.
4. Gig Economy skills.
5. Establish Education Digital Technology Ecosystem (EDT)



# INDUSTRY 4.0 (Transport)



## Challenges

- Lack of an integrated smart and efficient public transport system.
- Supporting a thriving economy that promotes sustainable economic growth, supporting a healthier lifestyle,
- Providing safe and accessible mobility options, socially inclusive for all communities and preserving the environment.

## Current Interventions

1. Interventions for accessibility, infrastructural development collaboration, and policy initiatives that encourage inter-modality such as the following:
2. The National Transport Master Plan (NATMAP 2050)
3. The Green Transportation Strategy for South Africa (2018–2050)
4. Integrated Transport Plans (ITPs)
5. National Planning Commission (NPC): National Development Plan for 2030.
6. The Drone Council SA was initiated in 2019, as an industry response to create a platform of affiliation by the various established companies and new entrants into the industry

# Communication Approach

Engagement with stakeholders for consultation, briefing and to receive inputs

- **PHASE ONE**
- Consultation and Roadshow across provinces

**PHASE TWO**

Intensified social media campaign – so that A PC4IR SIP becomes a main part of social media conversations

**PHASE THREE**

- PC4IR action and output driven

Media engagement & PR – media as partners in supporting PC4IR SIP

- Consolidation and reporting back implementation on the outcomes

**Implementation**

Outreach programme – public lectures and dialogues on key issues – to involve the public, especially the youth



**Thank You**