



# The Impact of the Fourth Industrial Revolution on Gambling in Africa

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# Contents



1

The Roadmap to the 4<sup>th</sup> Industrial Revolution (4IR)

2

The future of gambling as a result of the 4IR

3

Implications of the 4IR for gambling stakeholders

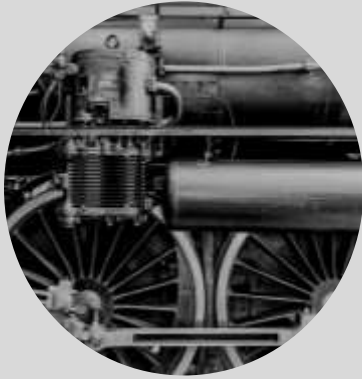


1

## The Roadmap to the 4IR



# The evolution to the 4<sup>th</sup> Industrial Revolution



## 1<sup>st</sup> Industrial Revolution

Industrialisation as a consequence of the steam engine



## 2<sup>nd</sup> Industrial Revolution

Industrialisation driven by electricity resulting in mass production



## 3<sup>rd</sup> Industrial Revolution

The digital revolution involved in the development of computers and IT



## 4<sup>th</sup> Industrial Revolution

The developing environment marked by disruptive & emerging breakthroughs including robotics, VR, AI, nanotechnology etc.

# Pervasive internet and cloud computing has enabled 4IR



## Pervasive internet access

Pervasive computing creates an unobtrusive environment with full and integrated internet connectivity

## Proliferation of smartphones

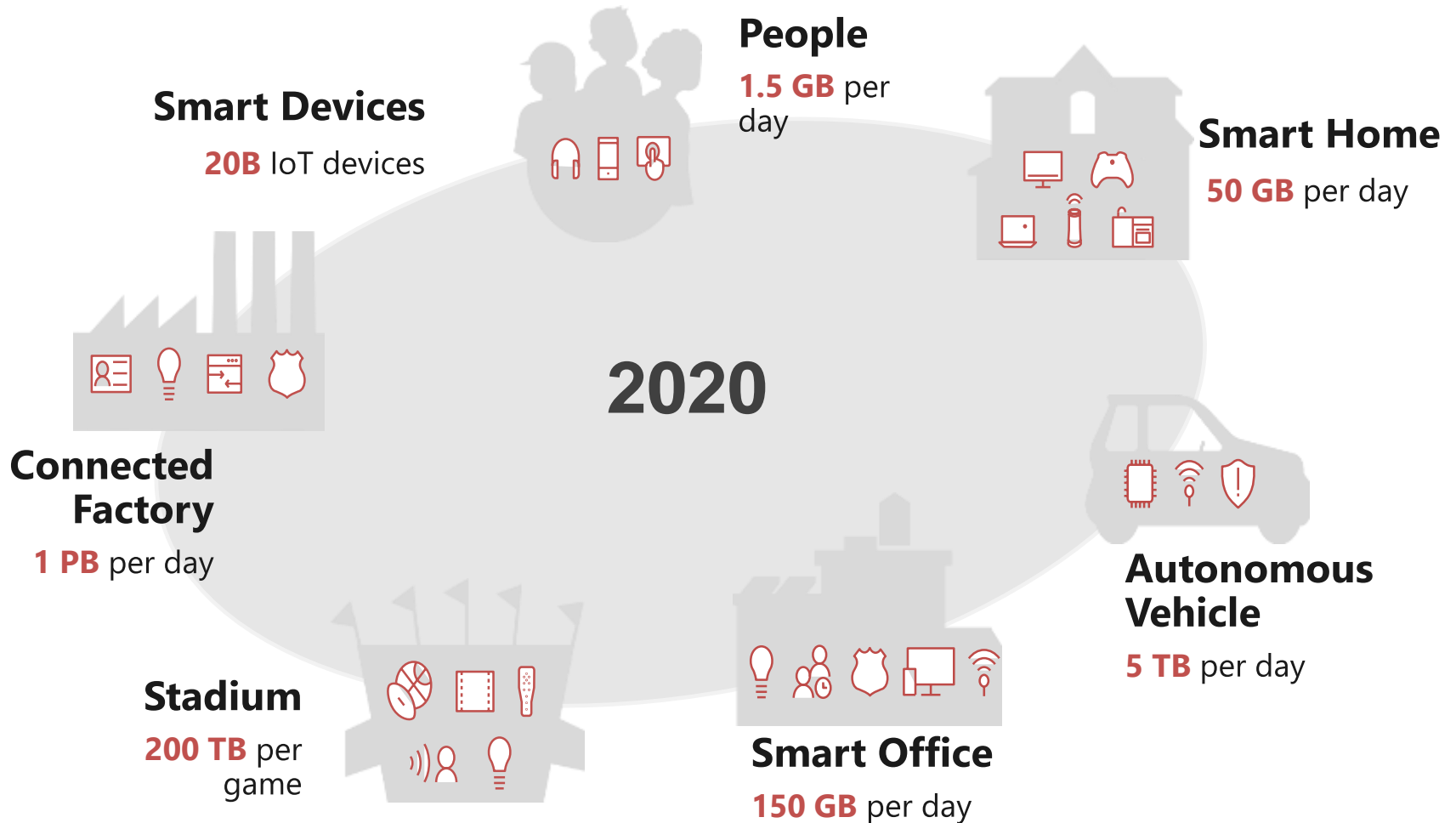
Is effectively a powerful mobile computer and its adoption & evolving use, along with tablets and electronic-readers, is resulting in new consumer behavior and expectations



## Access to cloud computing

Data Centres do not just store data anymore, they do heavy lifting of complex computing tasks

# The increasing ubiquity of computing



A thick red curved line that starts from the top left, curves down and right, then curves back down and left, ending near the bottom left. It passes through a red circle containing the number 2.

**2**

**The future of gambling as a result of the 4IR**

# Leveraging 4IR in traditional gambling activities

(Live casinos, LPMs, Bingo, Betting)

## Punters

- **Emergence of Robotics:** The replacement of humans with robots in live casinos i.e. robot croupiers and e-hosts
- **AI:** Predictive player behavior resulting in a customized gaming experience
- Use of **crypto-currency** and fin-tech payment methods; resulting in increased security

## Operators/Regulators/Manufacturers

- **AI:** Will replace **current game generators**
- **AI:** The ability of AI to **spot potential gambling addiction**
- **AI:** **Predictive maintenance** on equipment
- **ML:** Carry out complex algorithms to improve predictive models
- Remove on device software task and leverage **cloud computing** to deliver outcomes





# Regulation will play an integral role in shaping the future of gambling



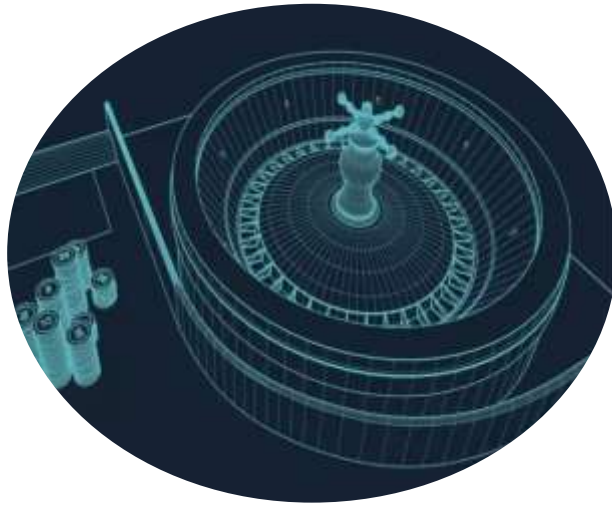
The Size of the Global Casino Gambling Market vs. the Size of the Online Gambling Market



*“One of the greatest changes in the casino industry has been the introduction of **online casinos and gambling sites**... Among these, sports betting and casino games make up the largest share of the online gambling market.”*

Source: <https://newcasinos.nz/casino-industry-overview-trends-and-what-will-the-future-bring/>

# The 4IR will have the greatest impact on online gambling



## Virtual Reality

VR Casinos can use devices like the Samsung Gear VR, Oculus Rift to give players a **complete experience** like walking around casino floors, placing wagers and even interact with other players. There are already games available in VR such as blackjack and roulette.



## Artificial Intelligence

AI will provide consumers with a more **personalized experience** in a virtual casino tailored to their personal preferences. AI will also be expected to provide gambling operators and players with more accurate and realistic odds.



# Challenges presented by the 4IR in gambling

1

**Job losses** with the replacement of humans with robots

2

**A rise in illegal gambling** in part as a result of online gambling

3

Increase in **cyber-security risk**

4

Greater requirement on operators/regulators to tackle **gambling addiction**

5

Greater **STEM** skill requirements

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3

Implications of the 4IR for gambling stakeholders

# A holistic approach is required to ensure the readiness of the gambling industry to take advantage of 4IR



## Government

- Government must develop *agile and flexible legislative frameworks*
- Funding must be made available for *tech innovators*
- Avail funds to researchers to conduct *impact assessments* of regulatory changes to anticipate and manage risks

## Operators

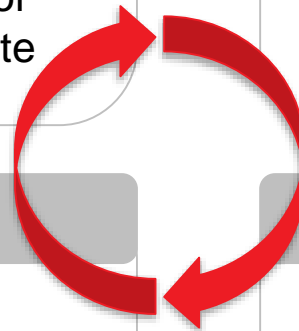
- *Partner with local gaming developers/innovators* to design new gambling games
- Support *local equipment manufacturers* in the procurement of gaming machines/equipment
- Improve *cyber-security*

## Regulators

- Avail *research funds* to innovators/tech entrepreneurs
- *Support local manufacturing opportunities*
- Support locally designed *indigenous games*, thus creating a competitive advantage

## Manufacturers incl. Yekani

- Partnership with *educational & national research institutions* – for research & skills development
- Partner with *telecommunications service providers* to ensure that connectivity is made available for gaming opportunities





[www.yekani.com](http://www.yekani.com)

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