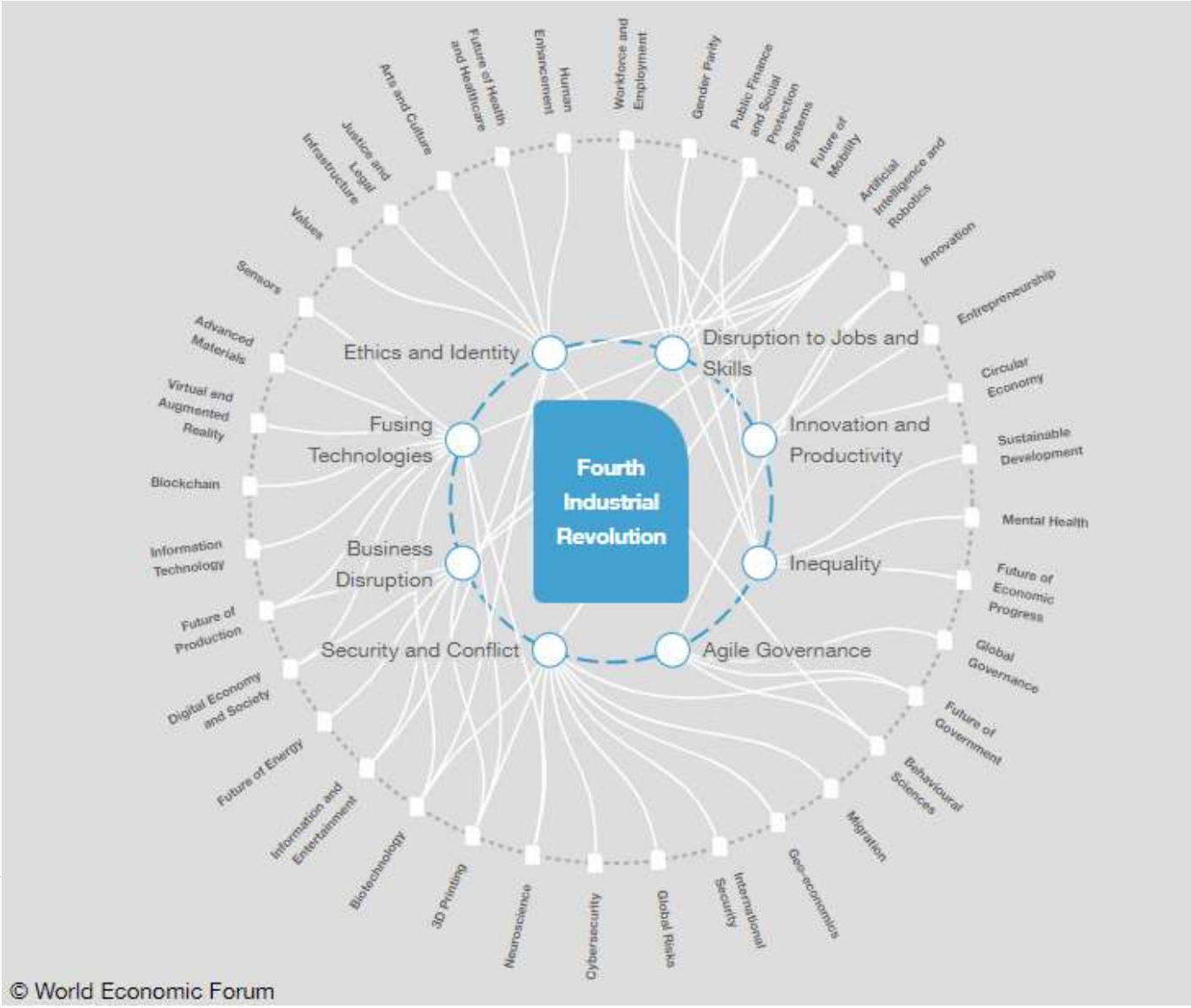
DST Vision for Health Research and Innovation

science & technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA

4th Industrial Revolution



Technology and Innovation Trends

Continuous Monitoring
Continuous monitoring of health vitals with intelligent analytics to notify a member of LifeCare network when needed

Retail Clinics
Provide people with convenient access to routine care with information connected and synchronized across the ecosystem

Connected Home
Access to my health information enriched with insights to help simplify decisions and actions

Auto Patient Access
Intelligent personal devices become an extension of the patient facilitating automated access and information sharing

Virtual Care Circles
People receive real-time information and notifications that allow for more meaningful and productive interactions with doctors

Omni-channel Experience
Personalized digital health hub supports people in improvement and maintenance of health seamlessly across interactions to make healthcare simple

Intelligent Treatments
Treatment plans are customized based on people's personas and continuously learn based on individual actions

Me, My Data & I
Intelligent personal devices become the centre to help people improve and maintain their health throughout their life

Virtual Care Team
First point of contact to coordinate care and support for people in times of need. Simple, secure access to care in real-time with reliable healthcare professional

Connected Care
Information is coordinated and synchronized across new ecosystem of virtual networks from home care to retail clinics to hospitals

Coordinated Ecosystems
Healthcare ecosystem will be extended for a seamless people-centered experience

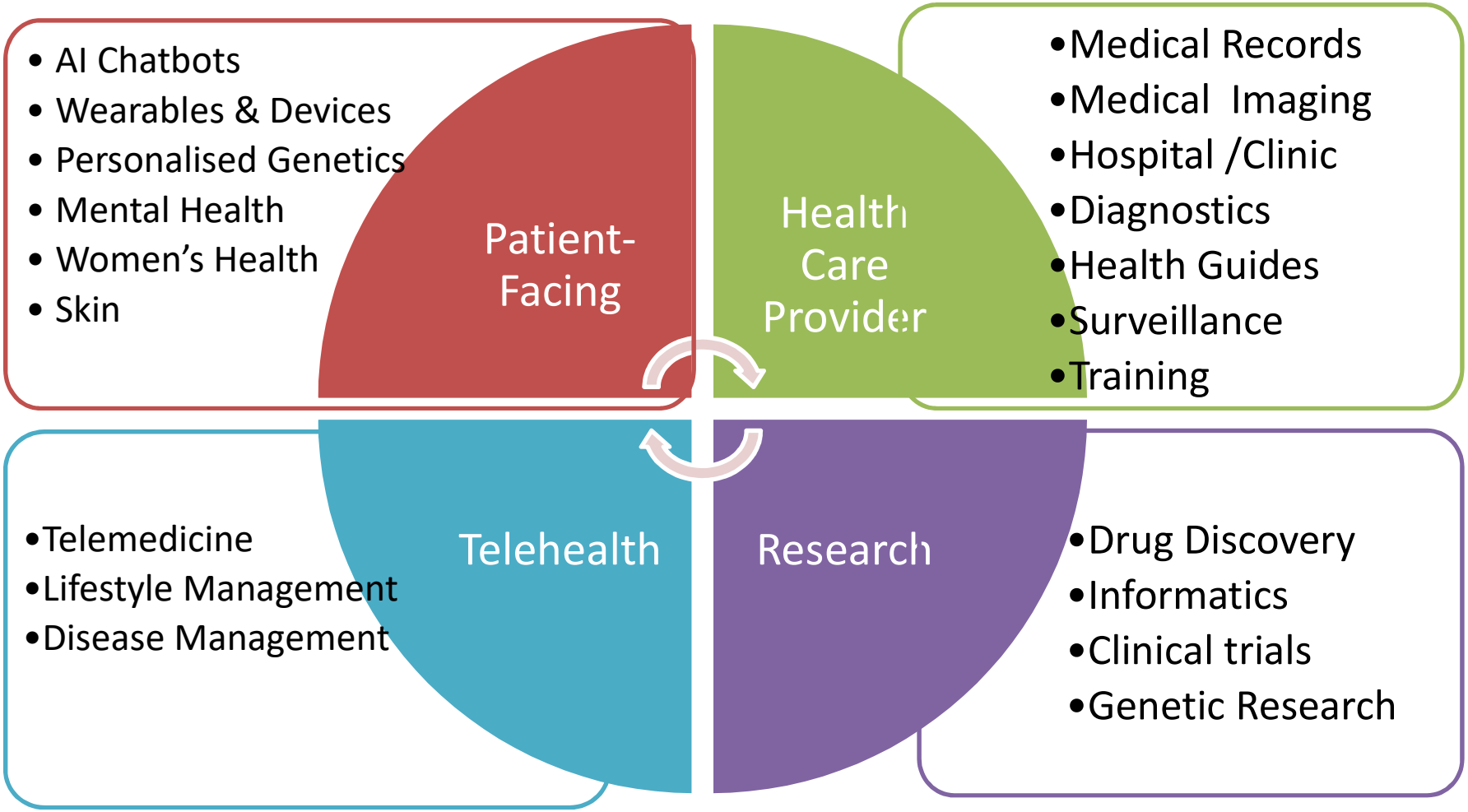
Augmented Wayfinding
Intelligent machines on people and facilities communicate to provide smart assistance in physical clinical settings

Seamless Financing
Health finances paid seamlessly behind the scenes with ongoing care coordinated

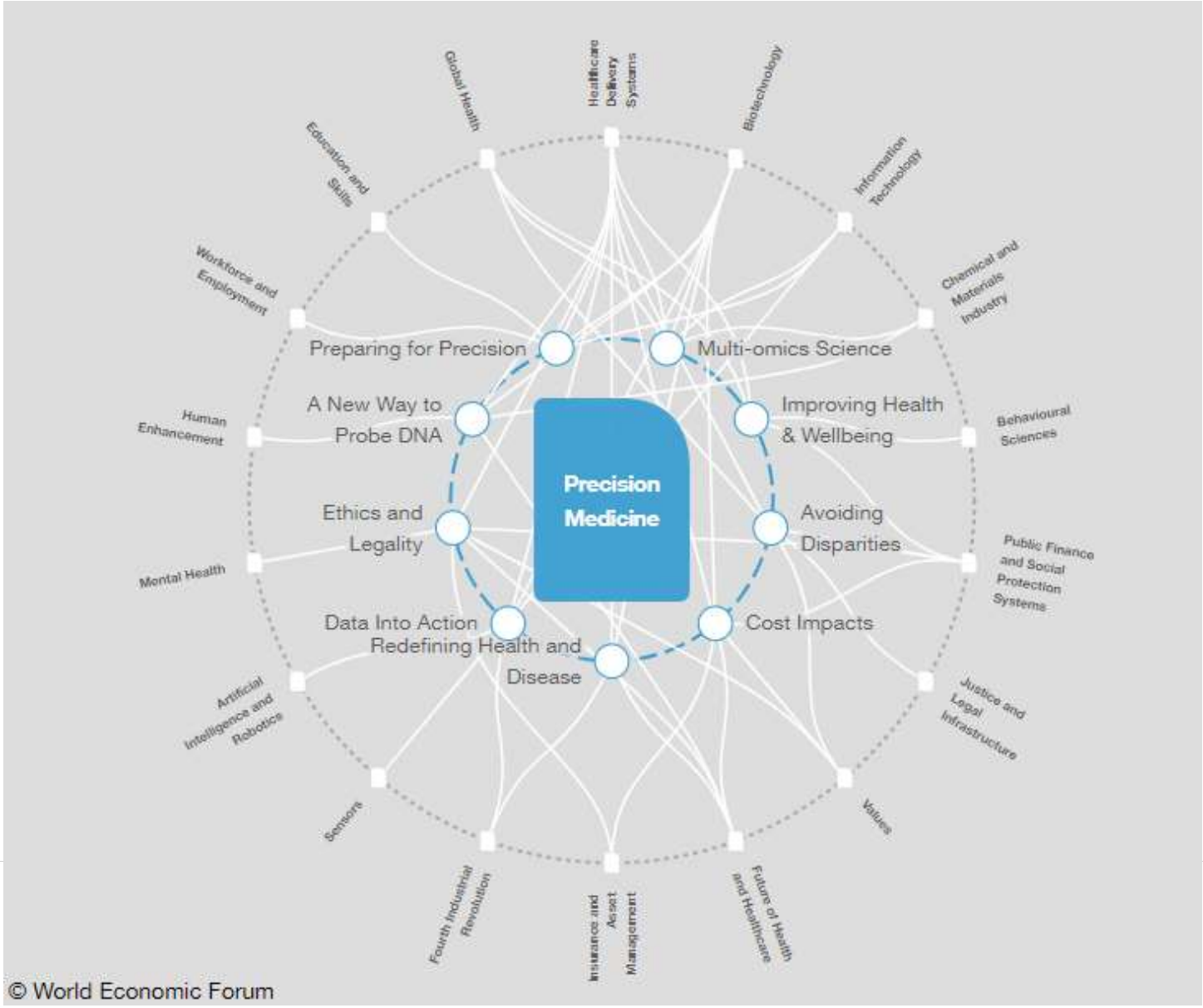
Intelligent Machines
Transparent, real time updates on people's relevant data allow virtual care teams to refine treatment and improve outcomes for their patients

Source: Accenture analysis

Digital Health



Precision Medicine



Molecular diagnostics at your finger tips

QuantuMDx

Oil & Gas
Identify microbes to protect oil and gas infrastructure

Pharmacogenomics
Informing future drug regimens

Cancer
Tumor profiling and staging in the clinic or by the operating table

Food Safety
Identifying and protecting produce within agriculture

Agriculture
Protect live-stock and crops with on-site diagnostics

Water Safety
Ensure water supplies are safe from source to tap

Environmental
Identify species and conduct research in the natural environment

Security
Detect and contain biothreats in any settings to protect our communities

https://quantumdx.com/

Future is here….

Oxford NANOPORE Technologies

From the bench to the field, the MinION is being utilised throughout the world to deliver new insights and actionable, real-time results for a range of applications.

- Whole genome sequencing
- Targeted sequencing
- RNA sequencing
- Metagenomics
- Epigenetics

Clinical research

Cancer research

Transcriptome analysis

Human genetics

Basic genome research

Environmental research

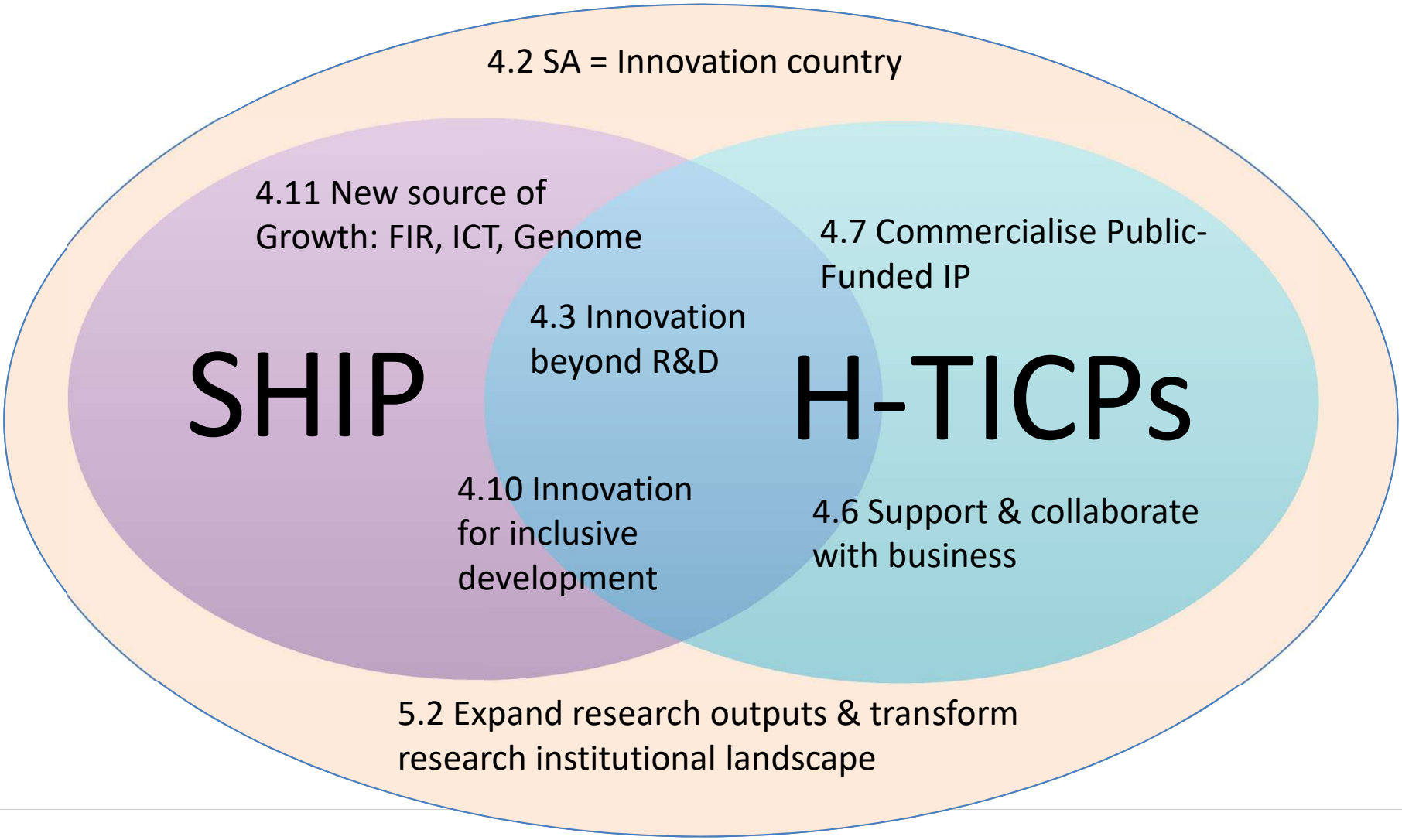
Animal research

Plant research

Microbiome

Microbiology

Health Innovation: DST perspective



Enablers & cross-cutters

Human Capital

World-class research standards

Next generation technologies

Close gaps in Innovation Cycle

Leadership framework

National priorities

Communication and marketing

Access global IP & knowledge pools

Ethical framework

Align regulations

Incentives and funding

More of these needed.

(Illustration - Shutterstock)

South African Doctor Performs World's First Middle Ear Transplant Using 3D Technology

BY CHRIS FORD
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