

2040 Scenarios for Future of Mobility In South Africa

presented by



4IR Summit – Durban
March 25, 2019



Why we Established MCA

**Avoid a jobs
bloodbath by
retraining future
workforce**

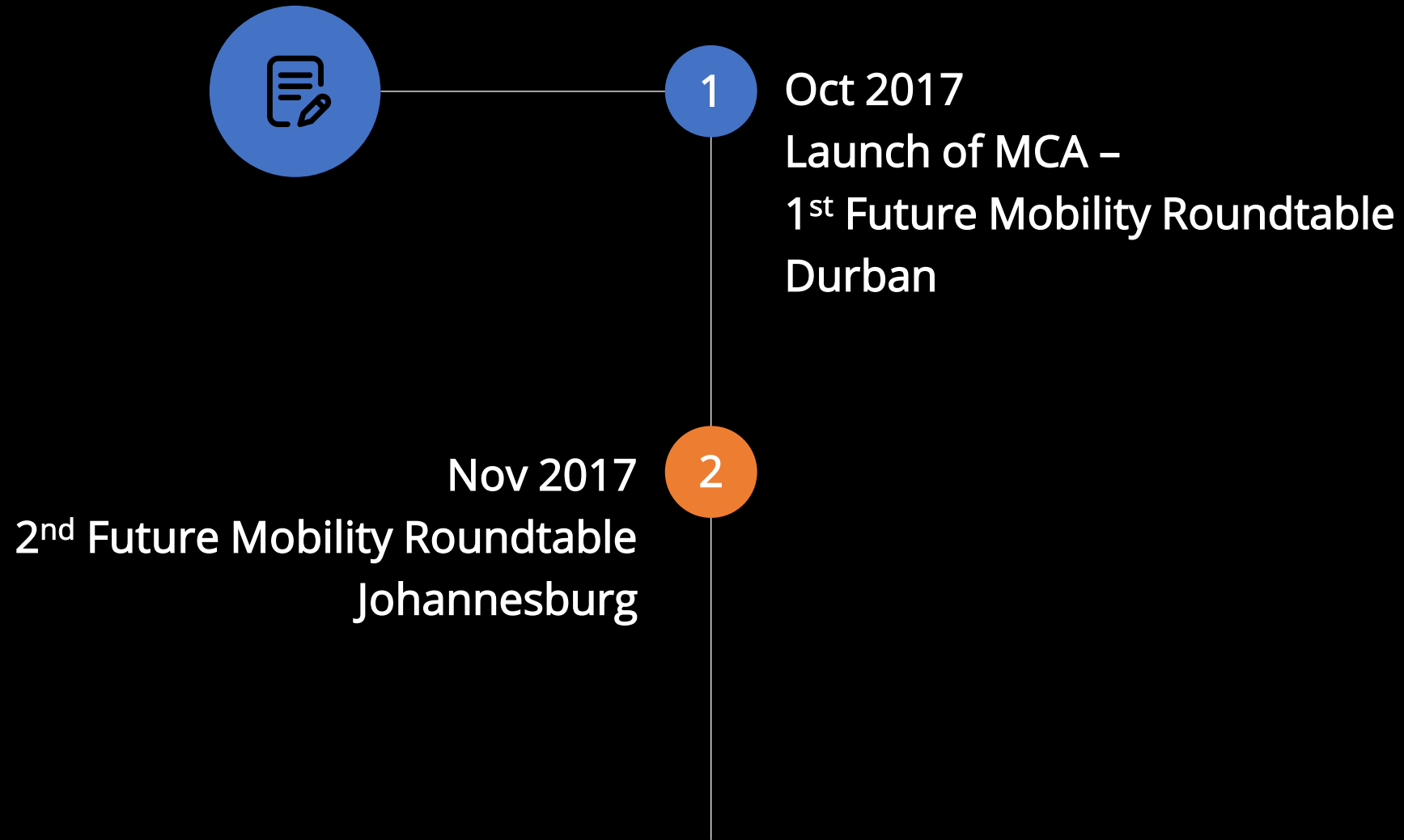
**Need to proactively
manage the
disruptive forces**

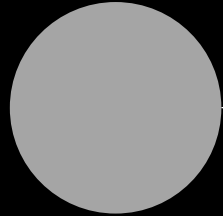
**Localisation of
technology
innovations**

**To maintain globally
competitiveness in
the auto industry**



OUR TIMELINE



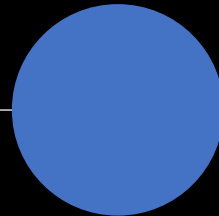


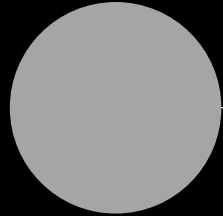
3

Jan 2018
US Tour to incl. CES 2018 in Las Vegas & Detroit Auto Show

4

Feb 2018
3rd Future Mobility Roundtable
Cape Town



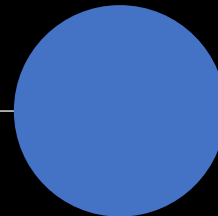


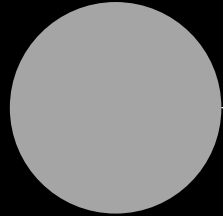
5

Apr 2018
4th Future Mobility Roundtable
Ekurhuleni

6

June 2018
5th Future Mobility Roundtable
Durban



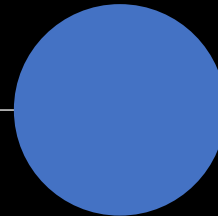


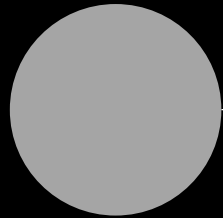
7

July 2018
Autonomous Vehicle Site Visits
Lynn, Toulouse, Paris - France

8

June 2018
5th Future Mobility Roundtable
Durban



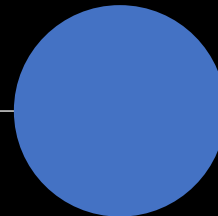


9

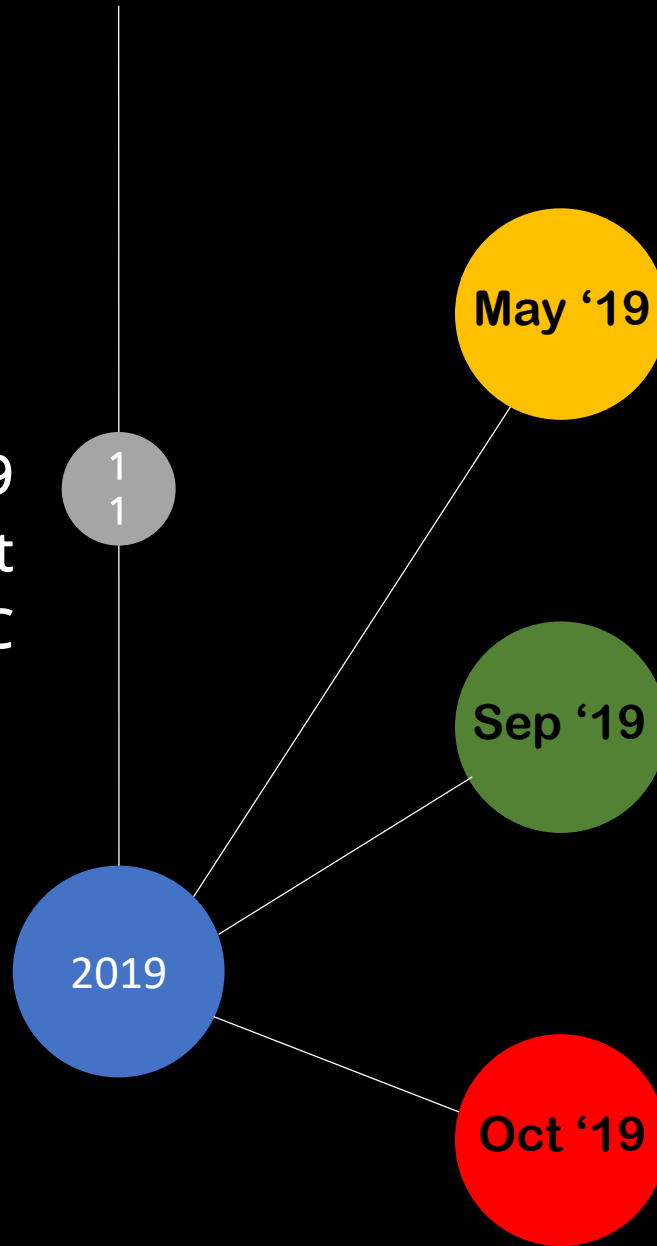
October 2018
Future Mobility Africa 2018
Durban ICC

10

Feb 2019
Move 2019
London, UK



Mar 2019
4th Industrial Revolution Summit
Durban ICC



Autonomous Vehicle Trials
Johannesburg & Durban



Automechanika 2019
Johannesburg



Durban ICC



2019 Global Mobility Trends



Scenarios for Future of Mobility



Trends to Watch & Game Changers

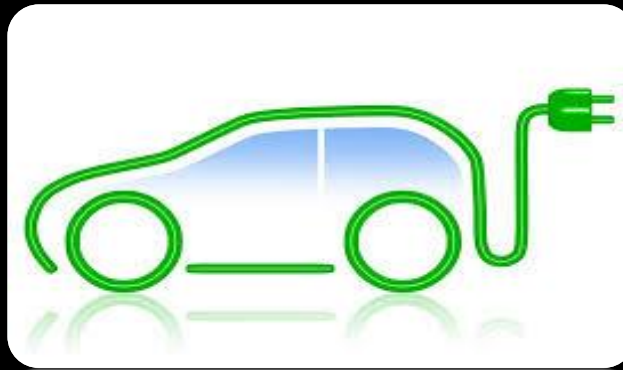


Implications & Opportunities for KZN

“The 3 Revolutions”



Shared



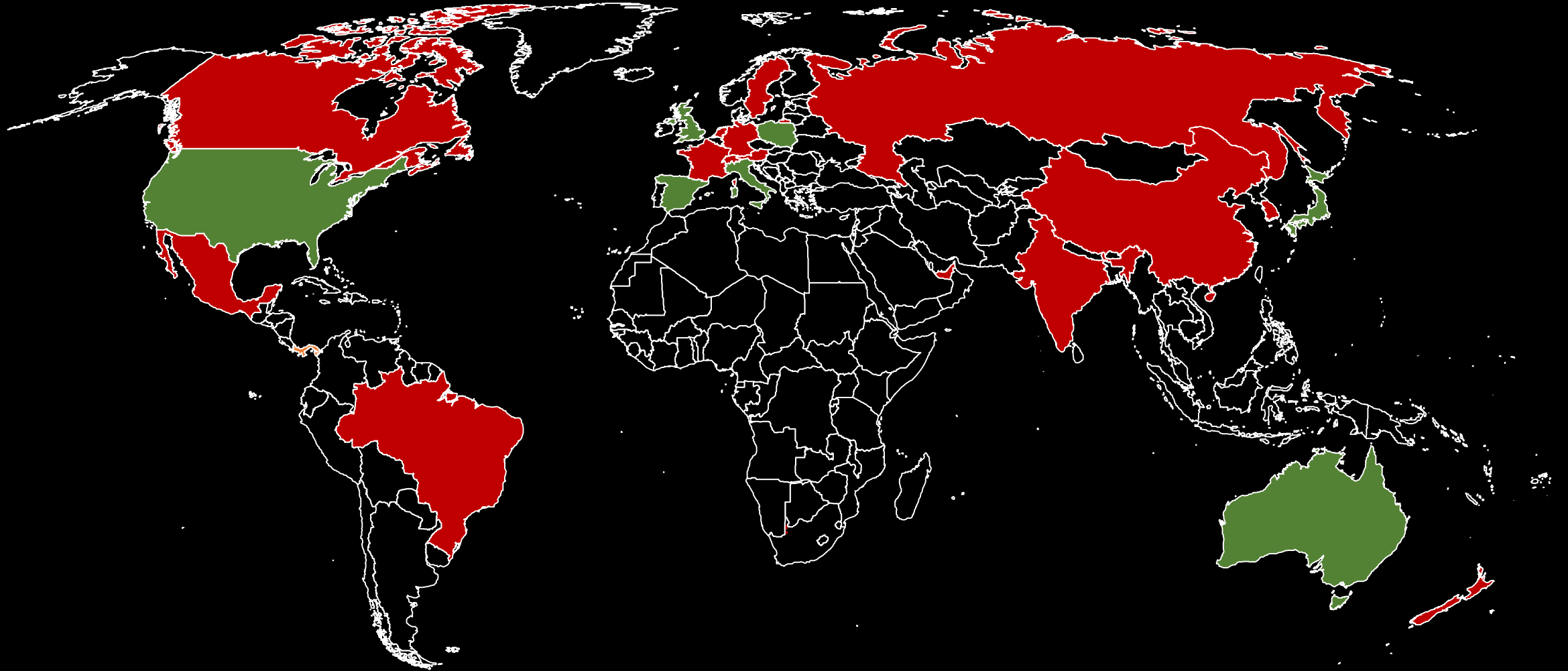
Green



**Connected &
Autonomous**

(Sperling, 2018)

Leading Countries Testing Autonomous Driving





2019 Global Mobility Trends



Scenarios for Future of Mobility

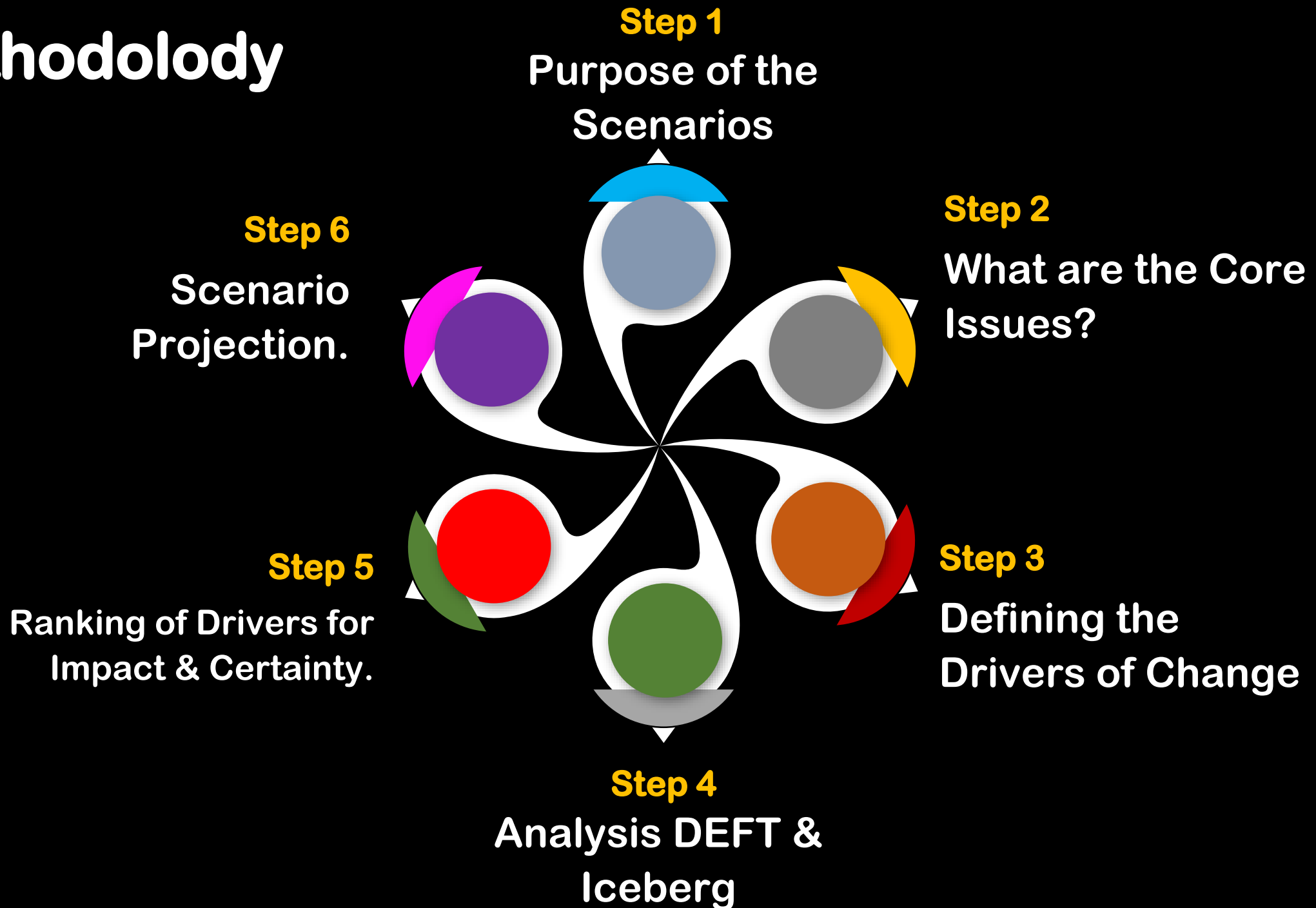


Trends to Watch & Game Changers



Implications & Opportunities for KZN

Methodology

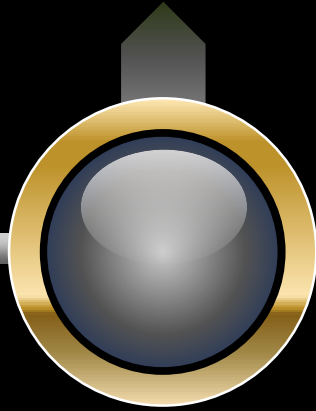


The Core Issues – Revisiting The Wicked 4

Crashes



Congestion



Affordability



Emissions

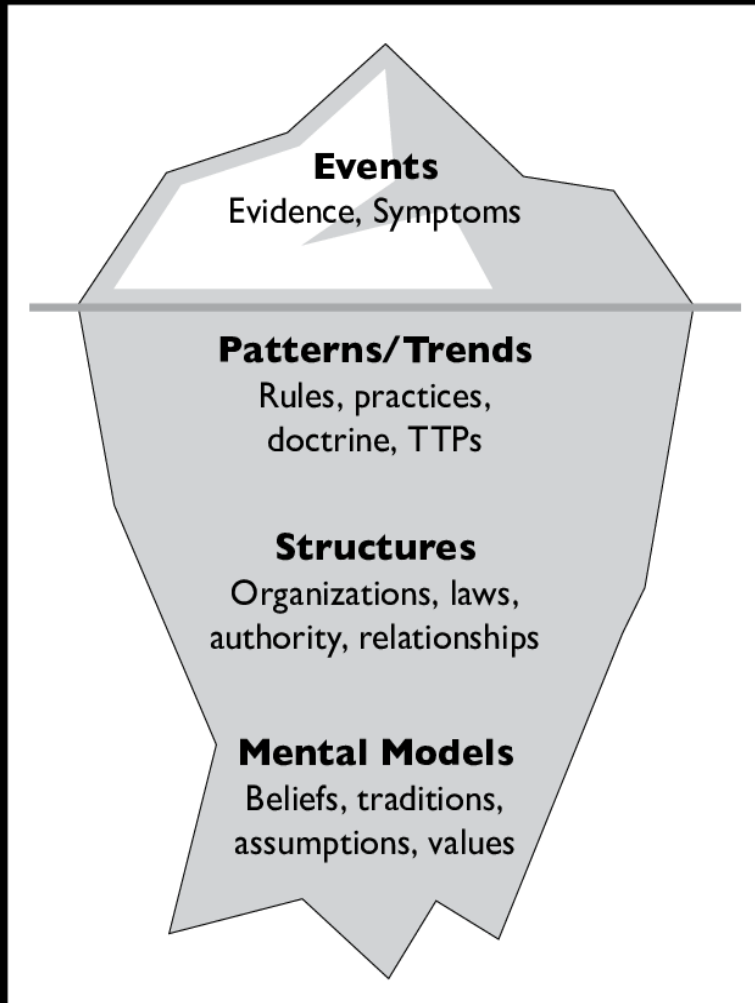


**These wicked problems are
mutating and evolving
along with disruptive forces
in mobility industries...**

.... what are the real
DRIVERS of
CHANGE?

The real **DISRUPTORS**

A Systems Thinking Approach



Drivers of Change



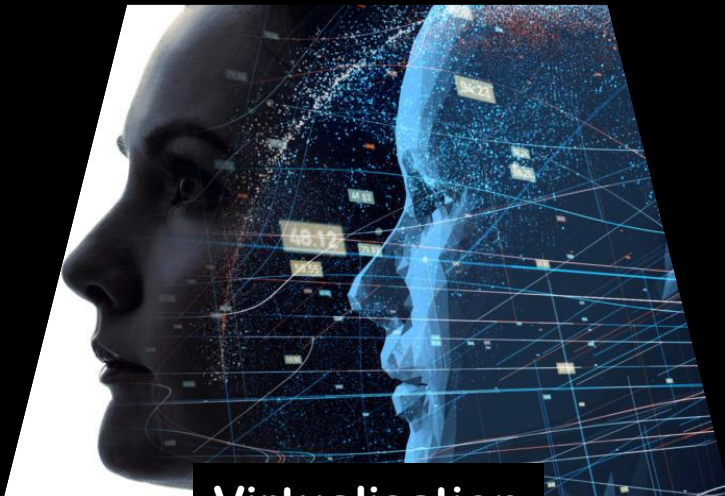
Automation



Disintermediation



Urbanisation



Virtualisation



Climate Change



Sharing Economy

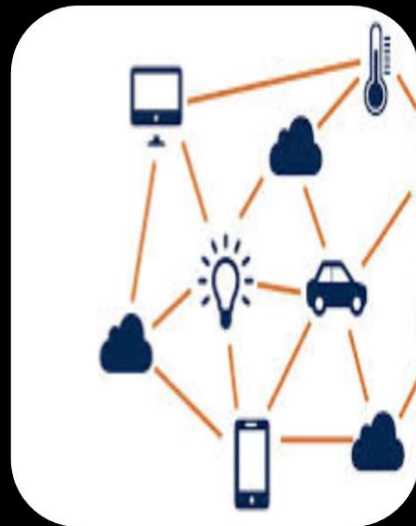
What are the key
**Enablers, Friction
& Turners**

Of these

Change Drivers?



Big Data



IoT/E



Cloud



eCommerce

Friction and Turners

Legislation

Late

Laggards

Labour

Affordability

Internet

Resistance

Access

**Violence &
Intimidation**

**Vested Monopoly
Interests**

**Coalition of the
Disrupted**

**No Start-up
Culture**

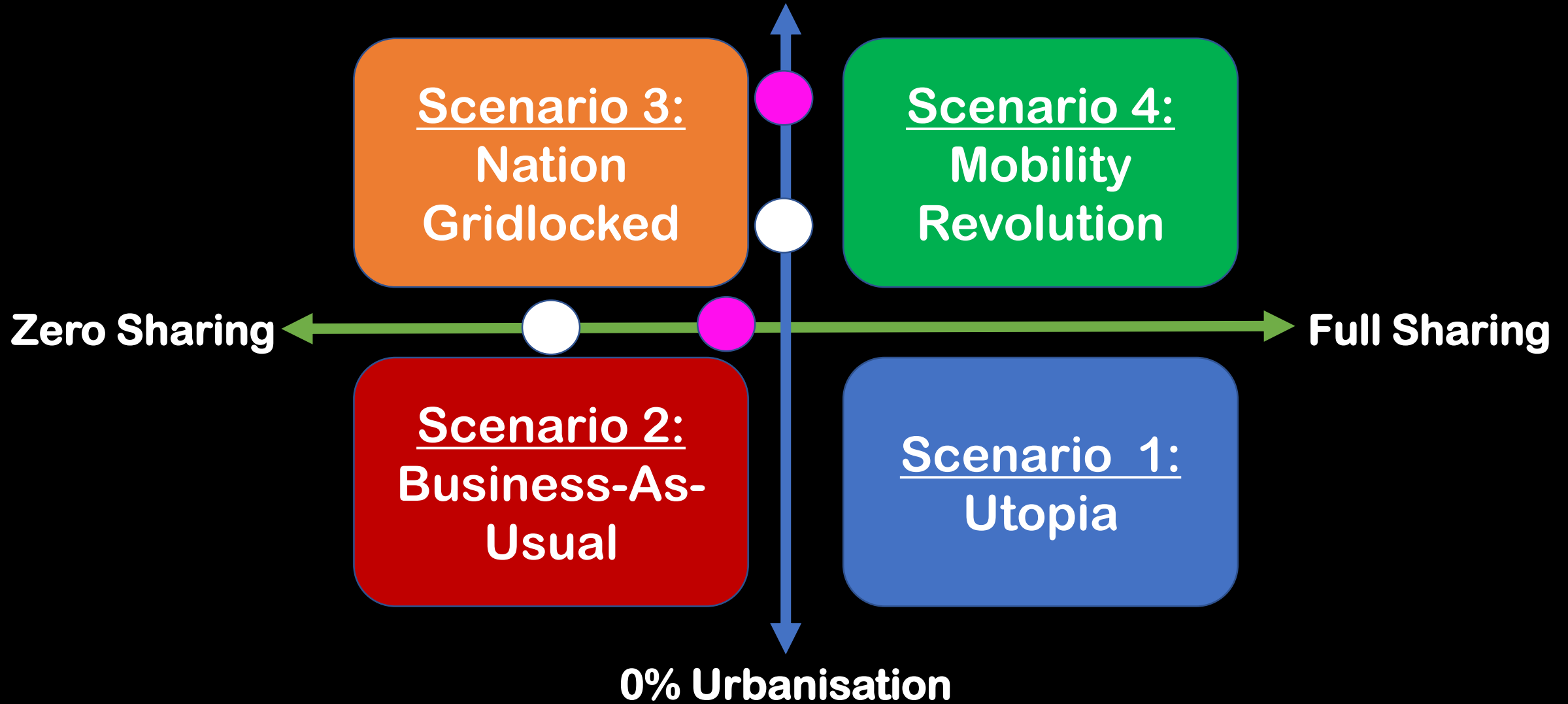
**Innovation
Policy**

Possible Mobility Future Scenarios

as predicted by



100% Urbanisation



Scenario 3:
Nation
Gridlocked

Scenario 4:
Mobility
Revolution

Scenario 2:
Business-As-
Usual

Scenario 1:
Utopia

0% Urbanisation



2019 Global Mobility Trends



Scenarios for Future of Mobility



Trends to Watch & Game Changers



Implications & Opportunities for KZN

**Is there something else we
are overlooking?**

**What are the weak signals
lurking in the horizon?**

**Are they passing fads or are
they worth considering?**

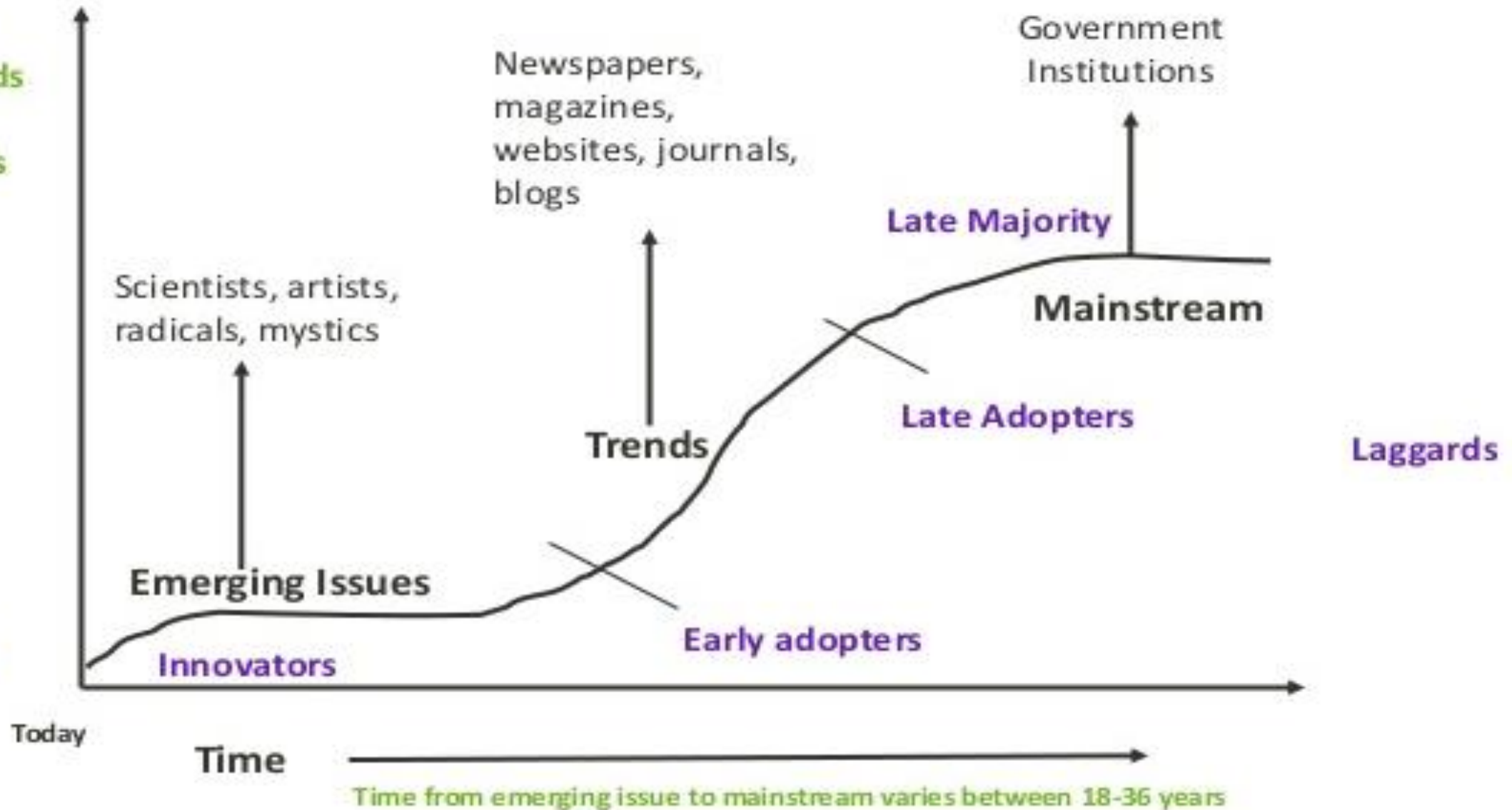
Weak Signals

Today

Global,
multiple
dispersed
cases, trends
and
megatrends

Number of
cases;
degree of
public
awareness

Few cases,
local focus



Source: Adapted from the work of Molitor and Schultz

Trends to Watch & Game Changers



TRADITIONAL VERSUS PLATFORM BUSINESSES

Structure

Asset Heavy

Mixed

Asset Light

Traditional Organizations, Value Chains and Physical Assets

Platform Ecosystem



Example Companies



amazon

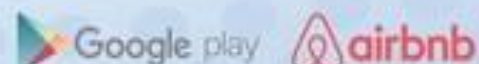
Google airbnb

Platforms

PREDIX



etrailer.com



THE FUTURE OF TRANSPORTATION STACK

<p>SERVICES</p>	<p>ROUTE PLANNING</p> <p>SPATIAL</p>	<p>PARKING</p>	<p>CAR HAILING + POOLING</p>	<p>OTHER: AFTERMARKET, REPAIR, RENTAL</p>	<p>SPECIALTY VEHICLES</p> <p>2-WHEELERS</p>	
<p>SAFETY & SECURITY</p>	<p>PHYSICAL CAR & DRIVER SAFETY + ACCIDENT DETECTION</p>	<p>EMOTION, FATIGUE & ALCOHOL DETECTION + DISTRACTION AVOIDANCE</p>	<p>CYBERSECURITY</p>	<p>INTRUSION, TRACKING & RECOVERY</p>	<p>PUBLIC TRANSPORT</p>	
<p>IN-CAR INTELLIGENCE + ASSISTANCE</p>	<p>VEHICLE DIAGNOSTICS & PREDICTIVE MAINTENANCE + SENSOR-BASED VEHICLE SAFETY</p>	<p>PASSENGER-FOCUSED SENSORS (INCLUDING USAGE-BASED INSURANCE)</p>	<p>INFOTAINMENT + DISPLAY</p>	<p>PERSONAL / VOICE ASSISTANCE</p>	<p>NAVIGATION ASSISTANCE + PEDESTRIAN ANALYSIS & COMMUNICATIONS</p>	<p>TRUCKS / FREIGHT</p>
<p>AUTONOMY</p>	<p>AUTOMATION SYSTEM</p>	<p>MAPPING, SIMULATION, & IMAGE RECOGNITION / ANNOTATION</p>	<p>AUTONOMOUS VEHICLE MAKER + TOOLS</p>	<p>FLIGHT</p>		
<p>INFRASTRUCTURE + CONNECTED CAR</p>	<p>SENSOR NETWORKING INFRASTRUCTURE (V2V, V2X) - LPWA, CELLULAR, WIFI</p>	<p>CONNECTED CAR - DATA, PLATFORM, SOFTWARE</p>	<p>FLEET + TRAFFIC MANAGEMENT</p>	<p>OTA CAR SOFTWARE UPDATE + SMART PHONE ENABLED TELEMATICS</p>	<p>OTHER: HYPERLOOP, PERSONAL MOBILITY</p>	
<p>INTELLIGENT MANUFACTURING</p>	<p>NEW/ADVANCED MATERIALS</p>	<p>RAPID PROTOTYPING - 3D PRINTING, MODULARIZATION, OPEN SOURCE</p>	<p>ADVANCED / AUTOMATED ASSEMBLY LINE</p>	<p>MATERIAL CHARACTERIZATION & TESTING</p>		
<p>ONBOARD SENSORS</p>	<p>LOCATION - GIS, PRECISION POSITIONING, PATH PLANNING</p>	<p>VISION / CAMERA</p>	<p>LIDAR</p>	<p>RADAR</p>		



2019 Global Mobility Trends



Scenarios for Future of Mobility



Trends to Watch & Game Changers



Implications & Opportunities for KZN



h

The machines
are **coming** here....

Zimbiwe Yinsele

Thank you...

