

What future vehicle technology could mean for compliance

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15 November 2023



Things I'll be covering this morning...



1. Who is TCA?
2. Changing the paradigm
3. Some practical examples (Smart OBM)

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Who we are

Transport Certification Australia (TCA) is a national organisation that provides assurance services relating to transport technologies and data to enable improved public purpose outcomes from road transport.

Priority outcome areas enabled by TCA services include improved road safety, transport efficiency, freight productivity, asset management and sustainability.



Key aspects of TCA include the following:

- An independent not-for-profit entity, with government oversight and ownership through Austroads
- Administration of the National Telematics Framework including its rules, specifications, agreements, digital infrastructure and other supporting services
- Assurance services that support but are appropriately separated from regulators, policy makers and enforcement activities, and underpin telematics applications and associated information and data services
- Advice that is based on evidence and a deep subject matter knowledge
- Trusted partner to both government and industry stakeholders, enabling a nationally consistent open market, with services covering all road vehicle types and associated digital infrastructure.

Where do we fit?



- National government organisation
- Administers the National Telematics Framework, (including its rules, specifications, agreements, digital infrastructure and other supporting services)
- Provides assurance in the use of technology and data

Where do we fit?



- National regulator for heavy vehicles (> 4.5t)
- Administers the Heavy Vehicle National Law (HVNL)
- Reduce duplication and inconsistencies in heavy vehicle regulation across state and territory borders
- Provides Notices and Permits to transport operators

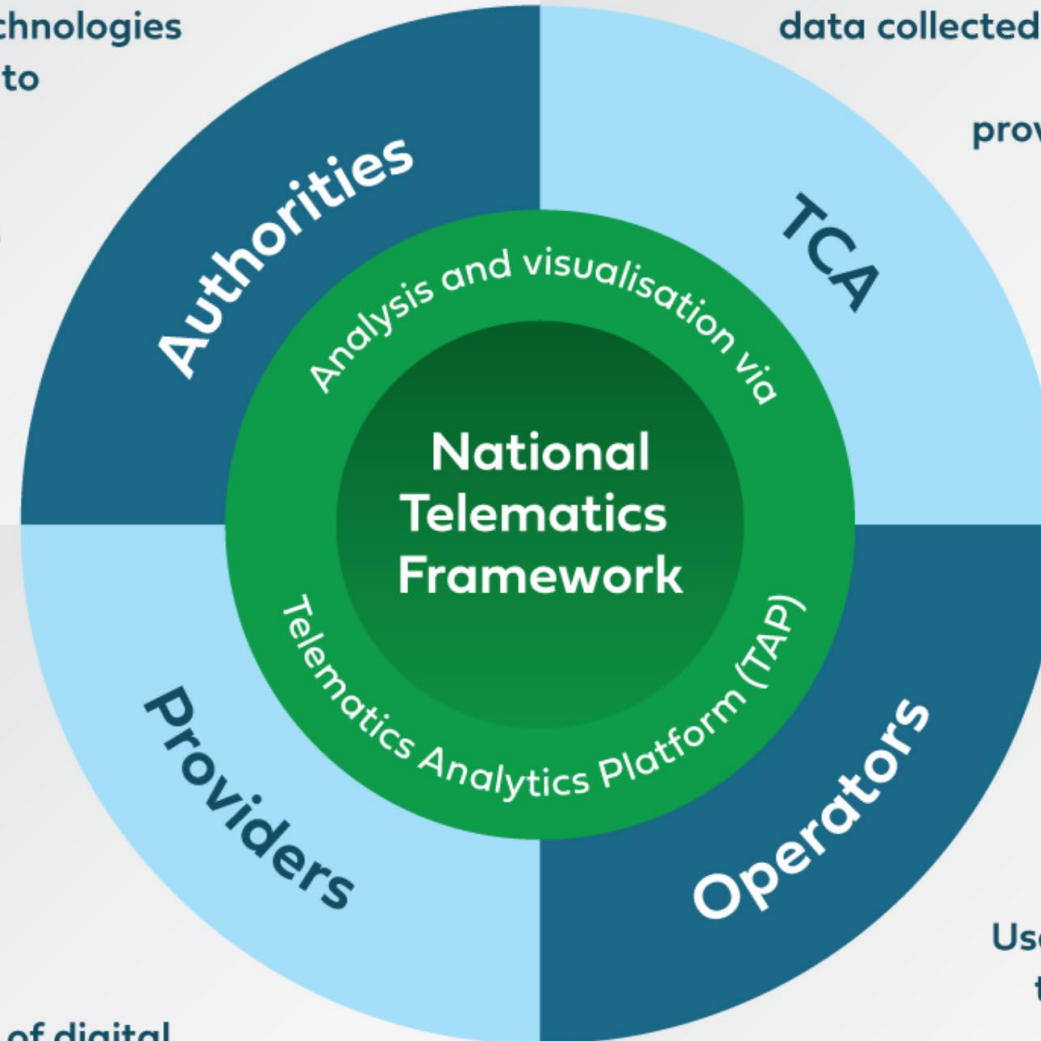
Where do we fit?



- Leads national land transport reform under direction of Australia's transport and infrastructure Ministers
- Supports Australian governments to improve safety, productivity, environmental outcomes and regulatory efficiency
- Leading review of HVNL

Government agencies and other parties that use digital technologies and data to advance public outcomes

Administrator of the Framework; management of data collected through the Framework; provision of TAP services to data users



Providers of digital technologies and associated services

Users of digital technologies recognised through the Framework

Things I'll be covering this morning...

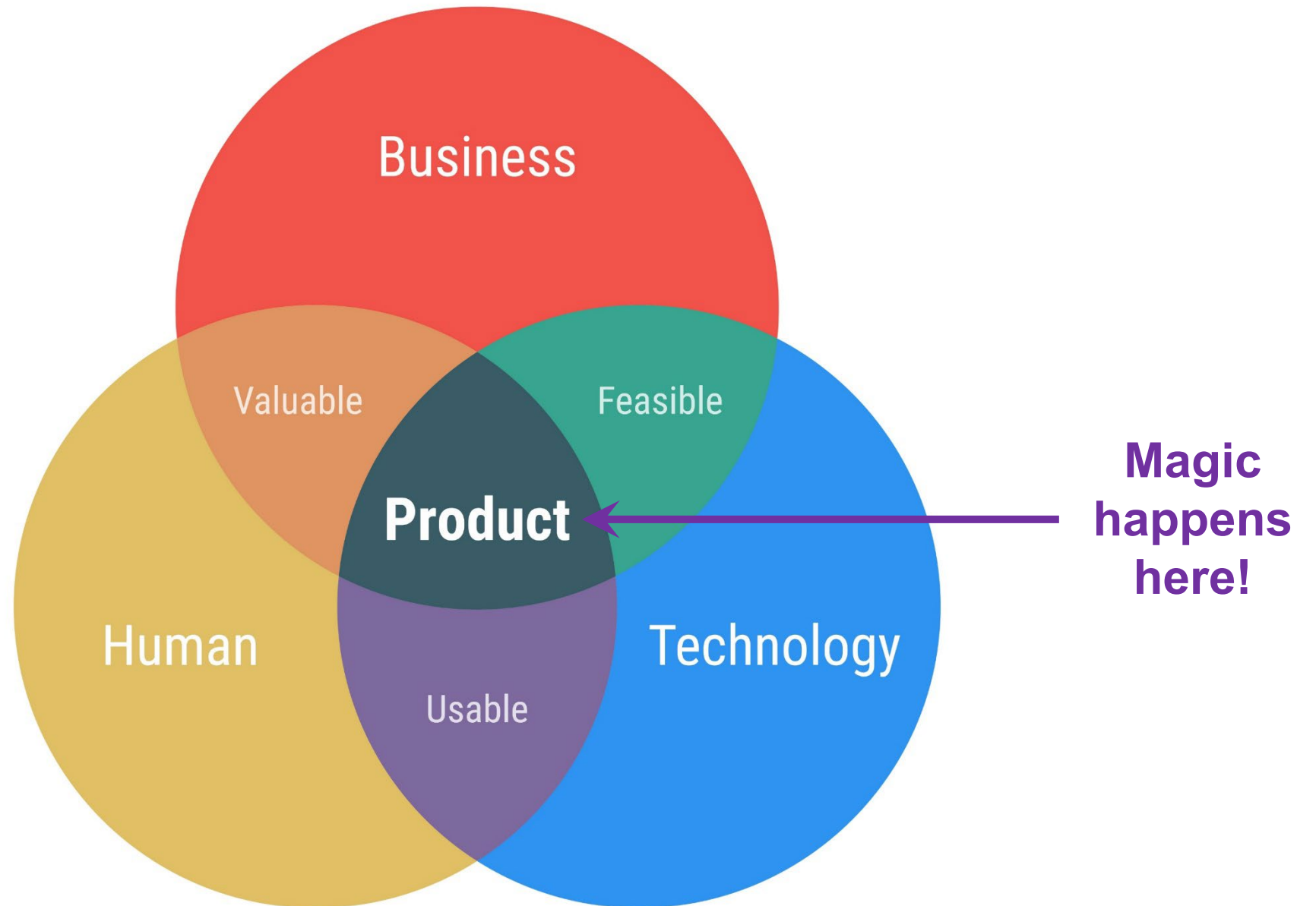


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Creating value at new frontiers

Being digital requires being open to **understanding where the new frontiers of value are**

McKinsey & Company





Transport
operators

Technology
providers

Road
agencies

Regulators

Vehicle technologies *change the way we look at heavy vehicle operations and compliance*

Changing the paradigm

1. New actors and participants

Providers of technology become a partner in managing compliance.

They become partners to the regulator *and* the regulated.

Definition of roles, obligations and limitations is important (refer to item 3).

Changing the paradigm

2. Defining the intended purpose

Different technologies do different things.

The accuracy, quality and reliability of data generated by digital technologies can differ substantially.

Not all data are created equal. End-users need to be aware of these limitations.

Changing the paradigm

3. Collect data once, use it for multiple purposes (with consent)

Data can usually serve more than one purpose.

Privacy and workplace surveillance laws need to be considered. Obtaining consent is a critical ingredient.

Defining the purposes for which data is collected, how it will be stored and how it will be destroyed are critical.

Changing the paradigm

4. The problem of too much data

It's easy to drown in data.

The challenge is to turn data into information and insights.

This is easier said than done.

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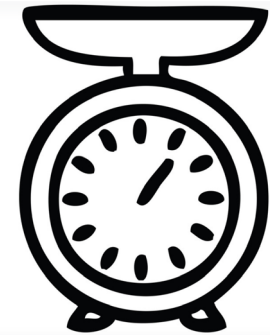
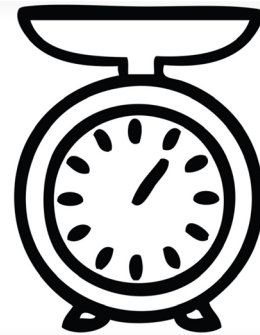
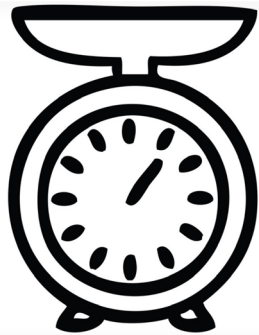


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Smart OBM



Smart OBM



Smart OBM

On-Board Mass (OBM) systems are technologies which measure mass 'on the vehicle'

Good OBM systems measure:

- The gross mass of a vehicle combination
- The mass of individual axles/axle groups

Better OBM systems have high levels of accuracy:

- Measurements within 2% of actual mass

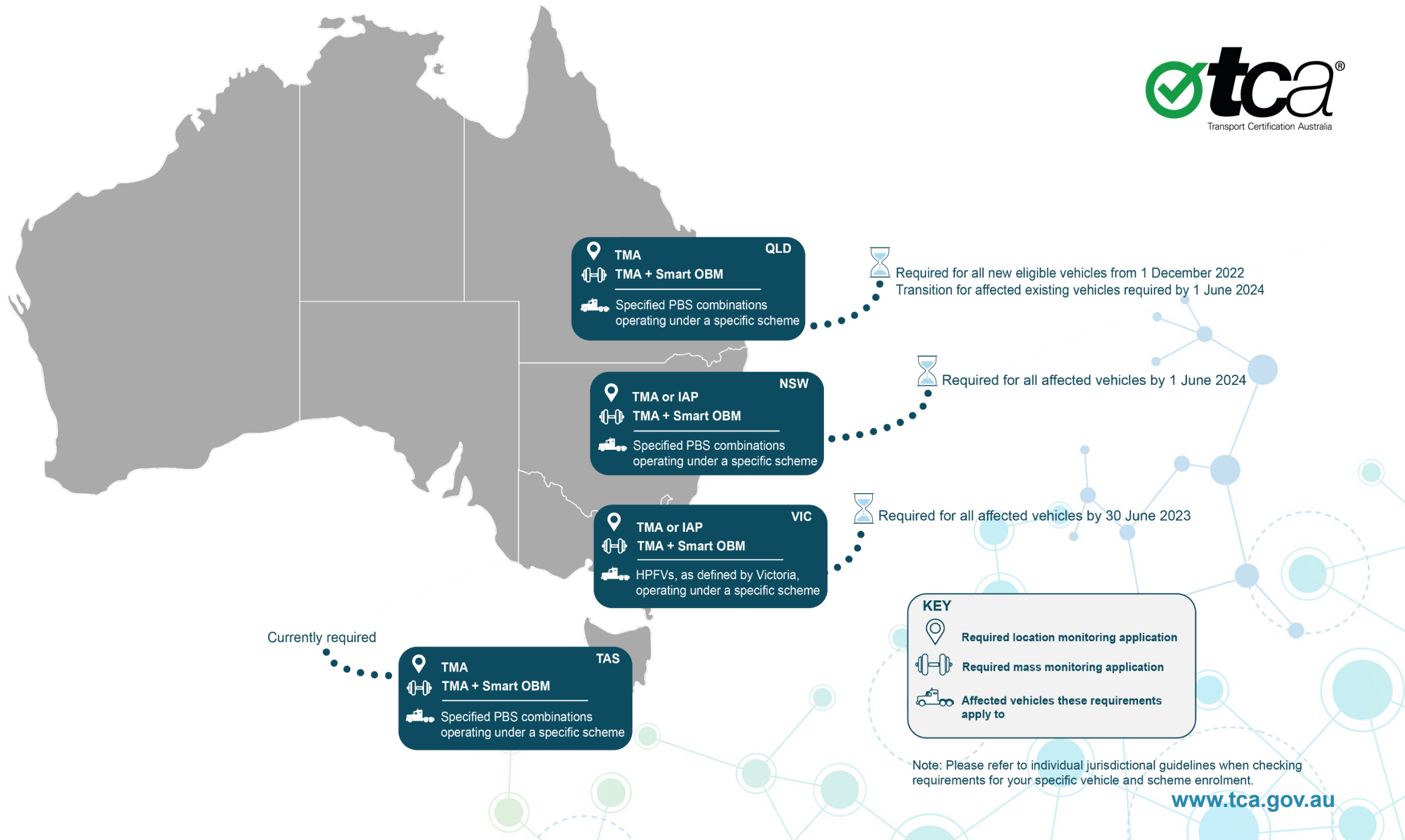
The best systems (Smart OBM) use digital technology:

- To generate axle mass data in a standardised way

OBM systems may be called:

- Mass sensors
- On-vehicle weighing systems
- Air suspension sensors
- Electronic Braking Systems (EBS)





Visualized Layers

Layers

Search

☐ TMA - HPFV 20-26m

☐ TMA - HPFV 26-30m

☐ TMA - HPFV 30-36.5m

☐ TMA - HPFV 36.5m+

☐ TMA - HPFV Length Unknown

☐ TMA - INTERSTATE PBS

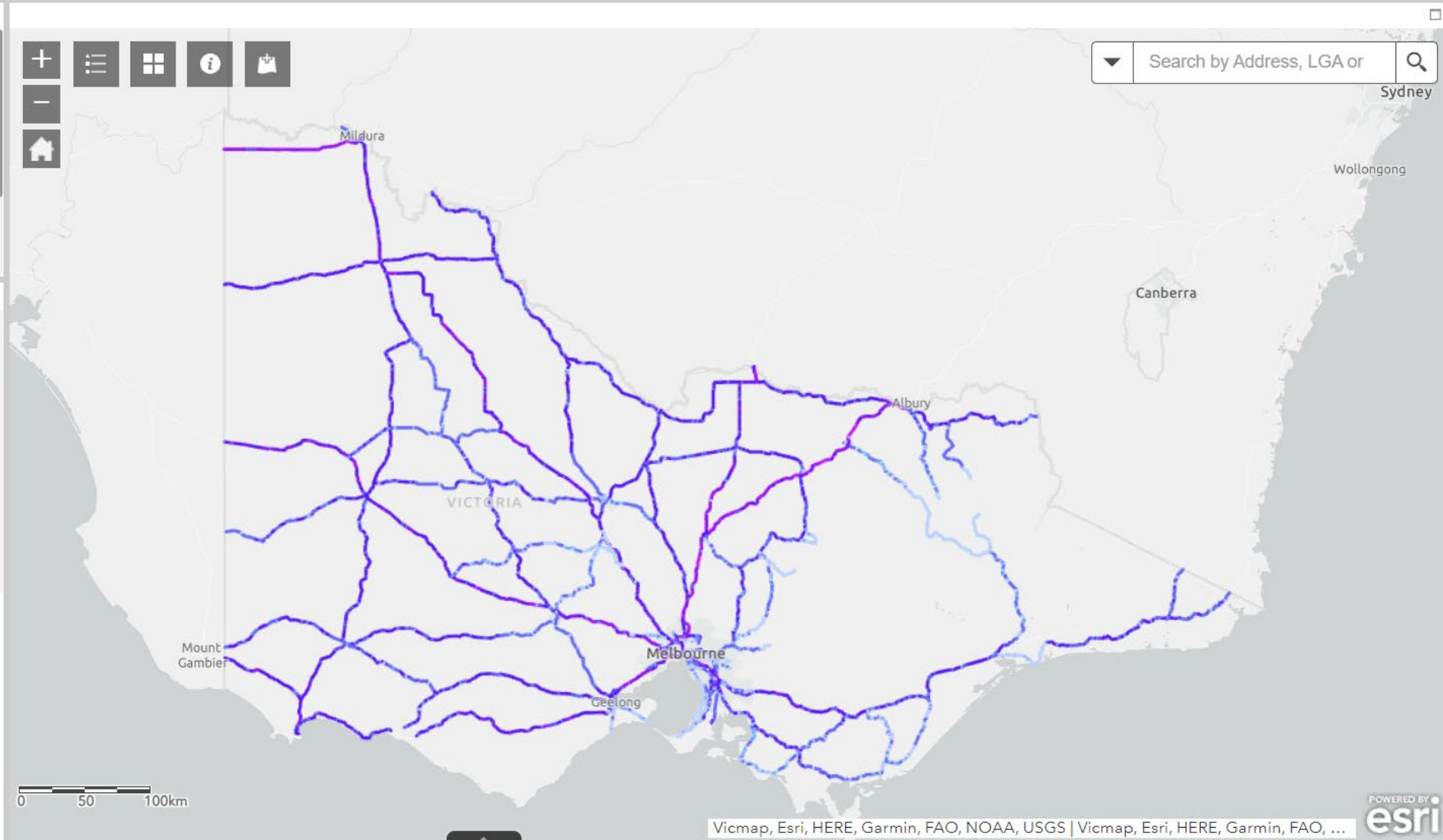
☐ TMA - ROAD TRAIN TYPE 1

☐ TMA - ROAD TRAIN TYPE 1 (A DOUBLE, B TRIP...

☐ TMA - UNKNOWN

☐ Voluntary - Construction

3 selected



VIC Smart OBM Statistical Dashboard



Road Name

None

LGA

None

Region

None

Vehicle Selector

None

Estimated Tare Vehicle Mass

All Vehicles

Date Range

1/03/2022



30/11/2022



Strucutre

None

Minimum Mass (kg)

2,720

Minimum of Gross Combination Mass (GCM) in kg for laden vehicle records

Last update: a few seconds ago

Average Mass (kg)

41,471.615

Average of Gross Combination Mass (GCM) in kg for laden vehicle records

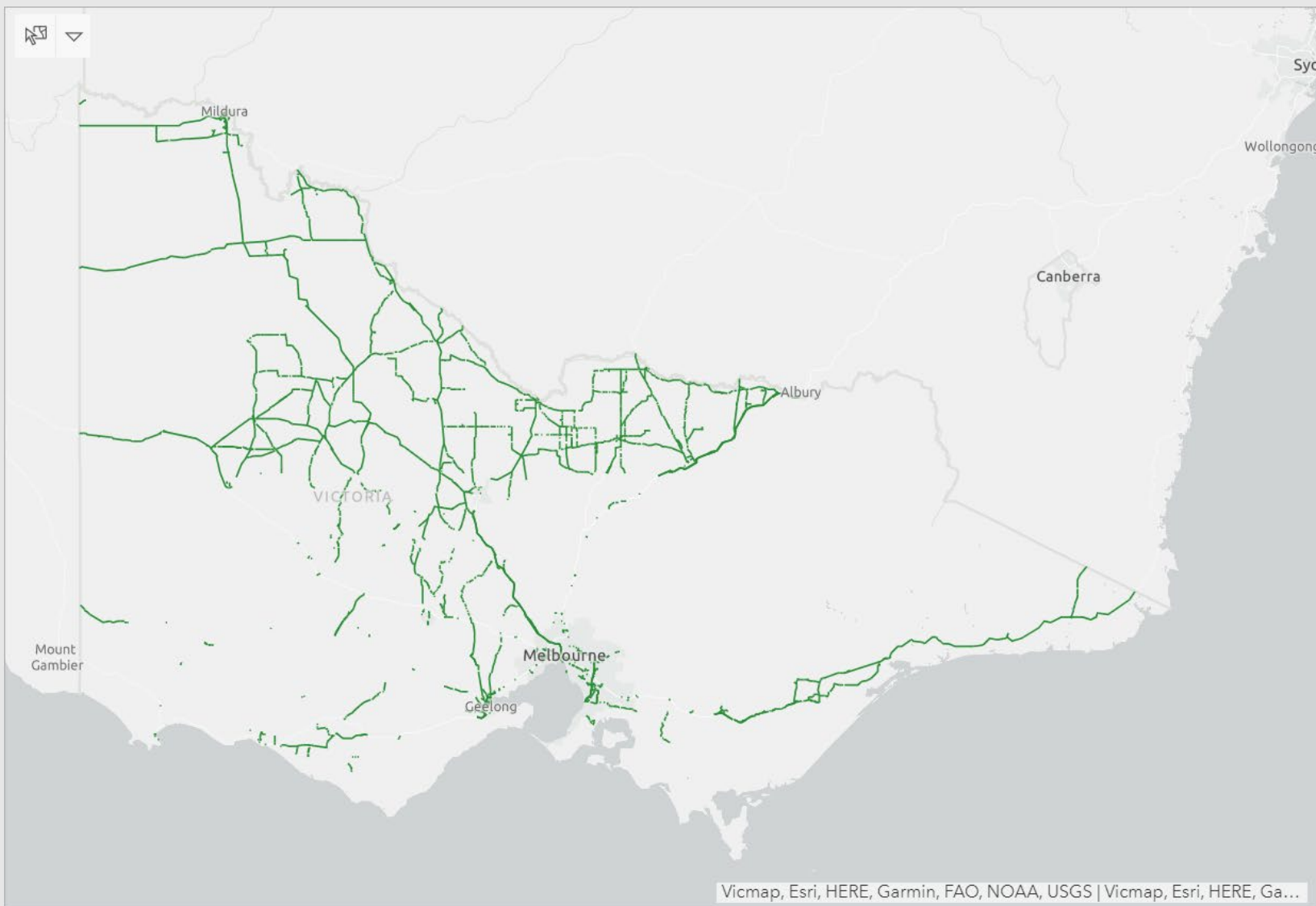
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Maximum Mass (kg)

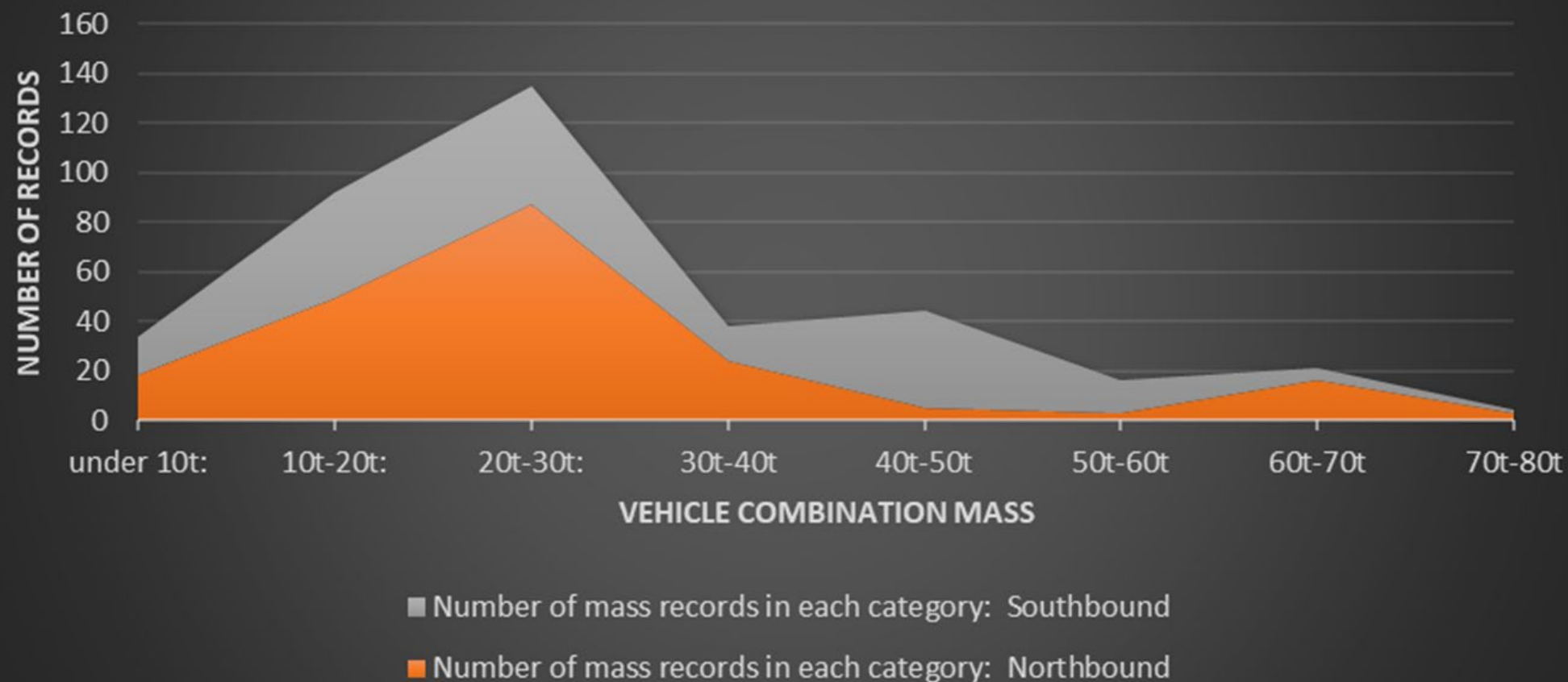
103,619

Maximum of Gross Combination Mass (GCM) in kg for laden vehicle records

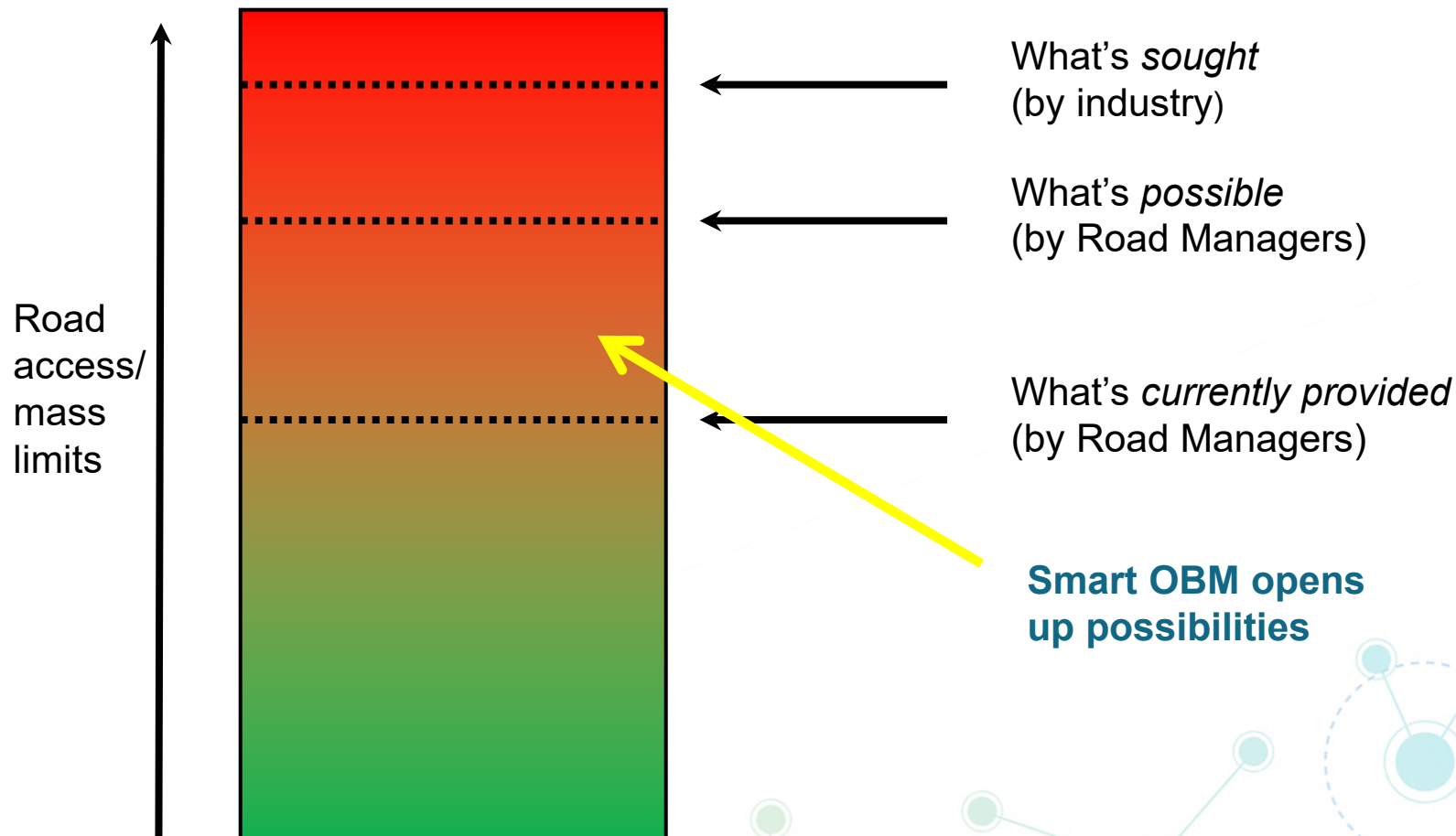
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Mass distribution of monitored vehicles



Smart OBM changes the paradigm



Smart OBM opens up possibilities

Because the rule-book has been re-written...

AS 5100.7:2017 is the national standard for assessing bridge infrastructure.

It includes 'load factors' when assessing structures for heavy vehicle access.

Reduced load factors for vehicles with Smart OBM...**opening-up** access to bridges and networks not otherwise possible.



Smart OBM changes the way we manage networks

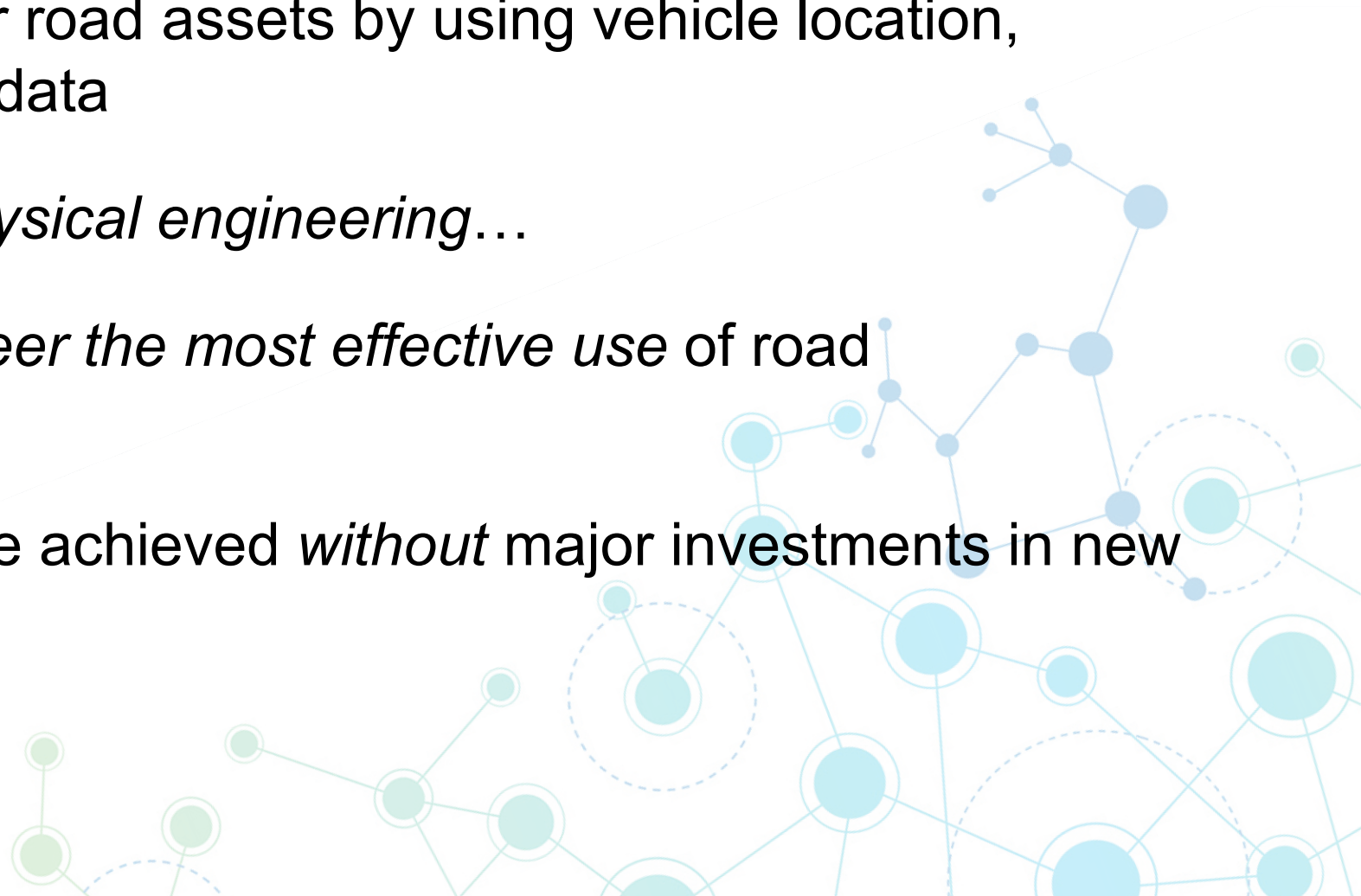


We can now re-engineer road assets by using vehicle location, configuration and mass data

This is not just about *physical engineering*...

...but the way we *engineer the most effective use* of road infrastructure

Productivity gains can be achieved *without* major investments in new infrastructure



How can I help?



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