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Bringing Smarter, Safer Transport to NZ





World Class Transport.
Smarter, Stronger, Safer.

Bringing Smarter Safer Transport to NZ

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- Why IBM and AECOM?
- Our VISION for New Zealand
- Being Smarter



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- **Why IBM and AECOM?**
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AECOM and IBM deliver the vision and value of smarter transportation management

The Partnership

Combines world class transportation industry expertise with industry-leading information technology for big data and analytics

The Vision

Transforms management of TMCs to make better and more timely decisions using current and future data in conjunction with advanced analytics

The Outcome

Improved operational efficiency and effectiveness
(Smarter Stronger Safer)



IBM and AECOM: unmatched capabilities in delivering real-time, information-based decisions

IBM		AECOM
Big Data analytics and world class expertise in information technology	+	Unmatched domain knowledge, industry expertise
Advanced, scalable, flexible platform	+	Harvested best practice and assets
Cloud delivery: Software as a service to get started quickly	+	Global transportation consulting practice
Global presence		



IBM information technology experience



100+ Years

AECOM transportation experience



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VISION

The Future for NZ

Transportation systems & Network integration

- Reliable Journey Times
- Integrated Public transport
- Managing congestion
- Clean Green cities
- Smart Grid
- Resilience



VISION

The Future for NZ

Demand Management

- Truly multi-model
- Cost of Infrastructure



VISION

The Future for NZ

Safer, Smarter Vehicles

- Safety Features
- Vehicle to vehicle Communication
- Driverless Cars
- Smart Devices
- Digital distributors

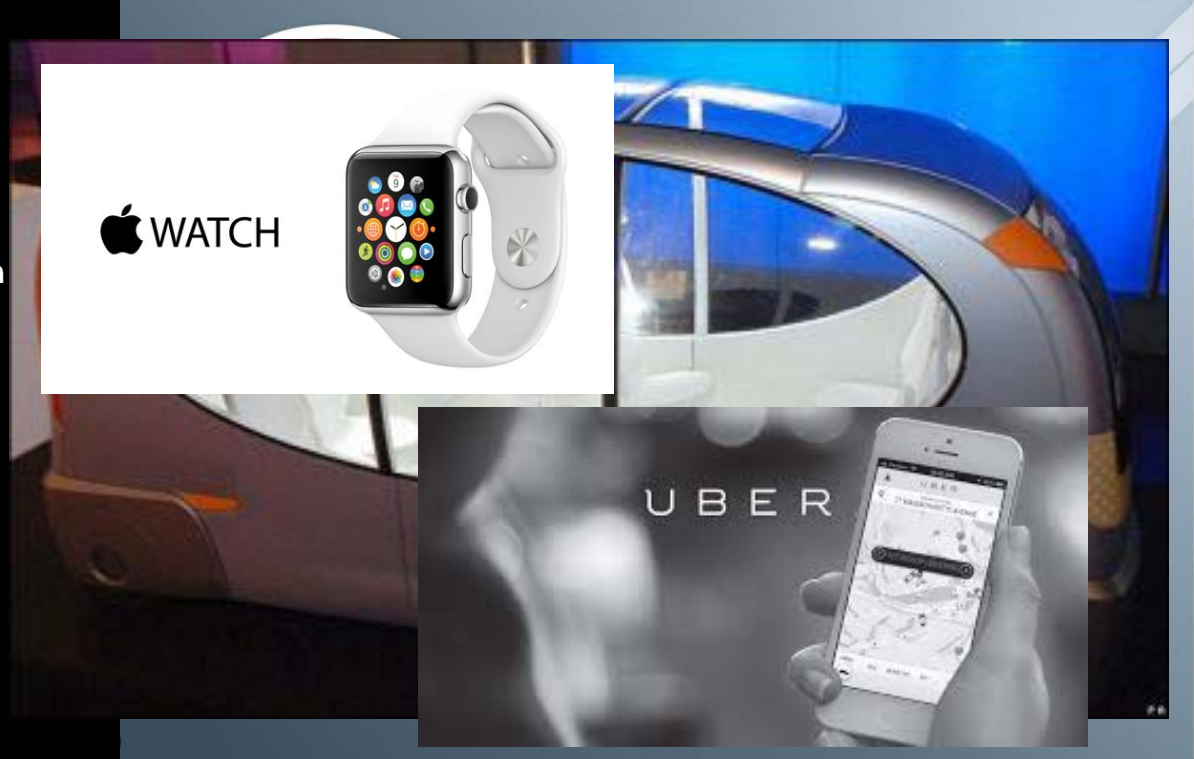


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How?

The world is becoming INSTRUMENTED

Smart sensors on road, in cars, Connected cars everywhere



The world is becoming INTERCONNECTED

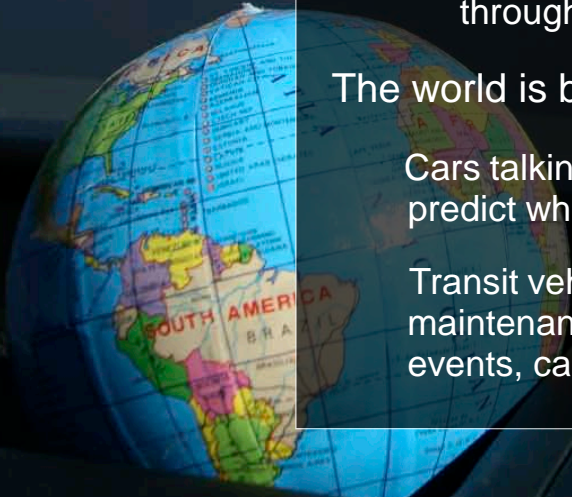
Linking information on road, in cars and railways, social media throughout the supply chain – *“the internet of things”*



The world is becoming INTELLIGENT

Cars talking to each other, sensors talking to each other, we can predict where traffic jams are, **before** and **while** you drive

Transit vehicles / Cars avoiding accidents, Predictive asset maintenance, interaction with the environment, Planning, signs, events, cars and POI info.

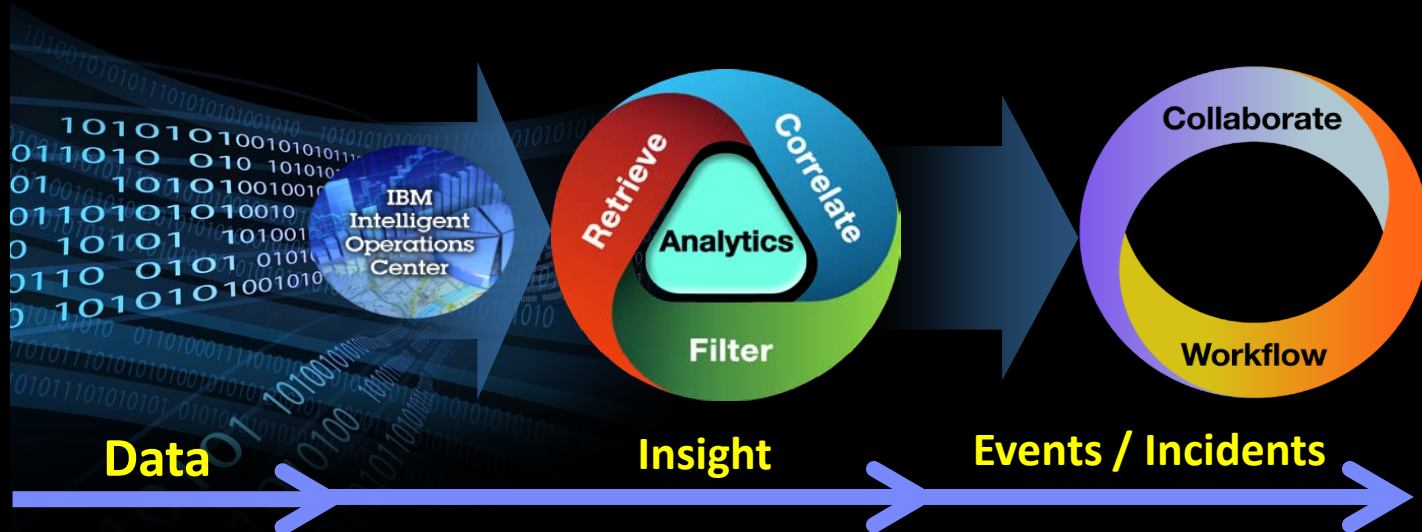




Being Smarter means turning DATA into **INSIGHTS** - which drives timely **ACTIONS**



Based on 10.000 engagements with smarter customers ...



One platform, many use cases:



Transportation



Public safety



City Fleets



Health &
Social welfare



Energy & buildings



Stadiums, Airports



Fire fighters visibility to building plans and Traffic help mitigate losses in fire accidents

Smarter Transportation helps optimizing energy consumption

Urban Systems

Lower crime increases use of public transit system



Easing traffic congestion improves emergency response

City – A 'system-of-systems'

Optimizing land use decisions can help better locate bus stops, roads, schools & community transport facilities



Improving waste water systems improves environment

Improved public health increases early years school attendance

Urban Systems

Higher adoption of public transit helps improve air quality



INNOVATIVE LEADERSHIP IN RIO DE JANEIRO TRANSFORMED INCIDENT MANAGEMENT

- Initial focus - prevent deaths from annual flooding and mudslides - now expanded to all emergency response issues
- Advanced weather forecasting enables up to 49 hour early warning of potential issues and triggers proactive processes
- 30 city departments integrated into processes
- Increased efficiency in resource deployment and coordinating all agencies in response
- Inspired Mobile Command Centers for each of the 20+ FIFA World Cup Football venues



"With our incident response system, we can react and respond to disasters faster and more efficiently. It's helping us save lives."

~ Eduardo Paes, Mayor, City of Rio de Janeiro



What do you see?



O'Connell Bridge / D'Ollier St. Dublin City CCTV
8 Apr 2013 18:31:50 GMT Daylight Time



What do you see?

CCTV

Connected Car

Engaged citizens

Smart Bus

Weather sensors

Loop detectors

Mobile phone
traces



O'Connell Bridge / D'Olier St. Dublin City CCTV
8 Apr 2013 18:31:50 GMT Daylight Time



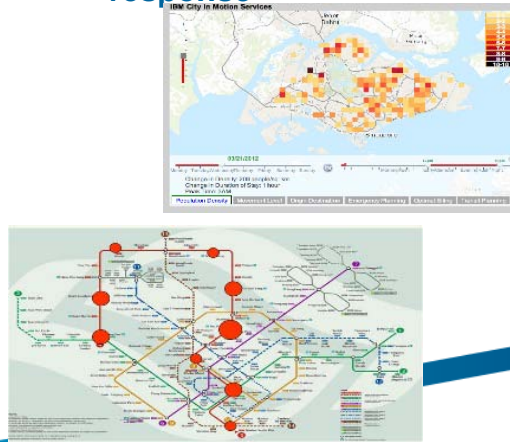
Singapore's Land Transport Authority using fusion analytics to create a state-of-the-art public transport system

Unique value delivered

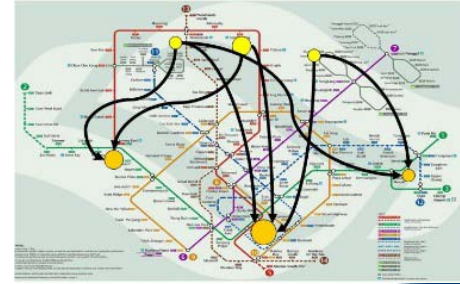
1 Multiple data sources for situational awareness



2 Improved prediction to support proactive response



3 Optimize Network Response

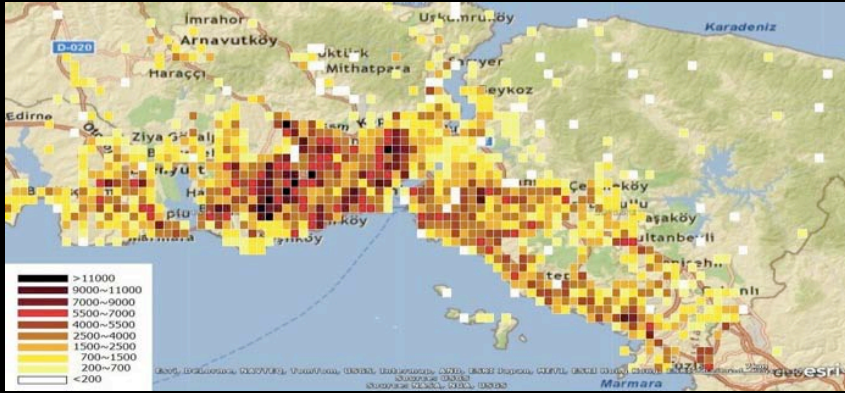


Value is realized when **actionable** insights are communicated to decision makers



Relative scope and complexity of change

Insights from Internet of Things (Machines, Mobile, Social) can enhance Transportation city planning, operations and citizen services



Citizen as a Sensor – Istanbul

- Anonymous big-data analysis of citizen movements over the course of a day (150m events per week)
- Created city planning maps 7 times more detailed
- Synchronized bus routes with city's new subway lines
- Precisely determined where traffic congestion begins - before commuters even reach the main arterial routes



Smarter citizen advisory solutions for urban multi-modal mobility



GSM traces
Weather Forecast
Social networks
Etc

Journey advice that adapts to changing dynamics of a transportation network



Multimodal real time predictive journey planner

In partnership
with



Road



Car parking



Taxis



Electric cars



Bikes



Bus/coach



Metro/tram



Train

etc

Real-Time
Traffic
+
Predicted
Traffic

Availability (Supply)

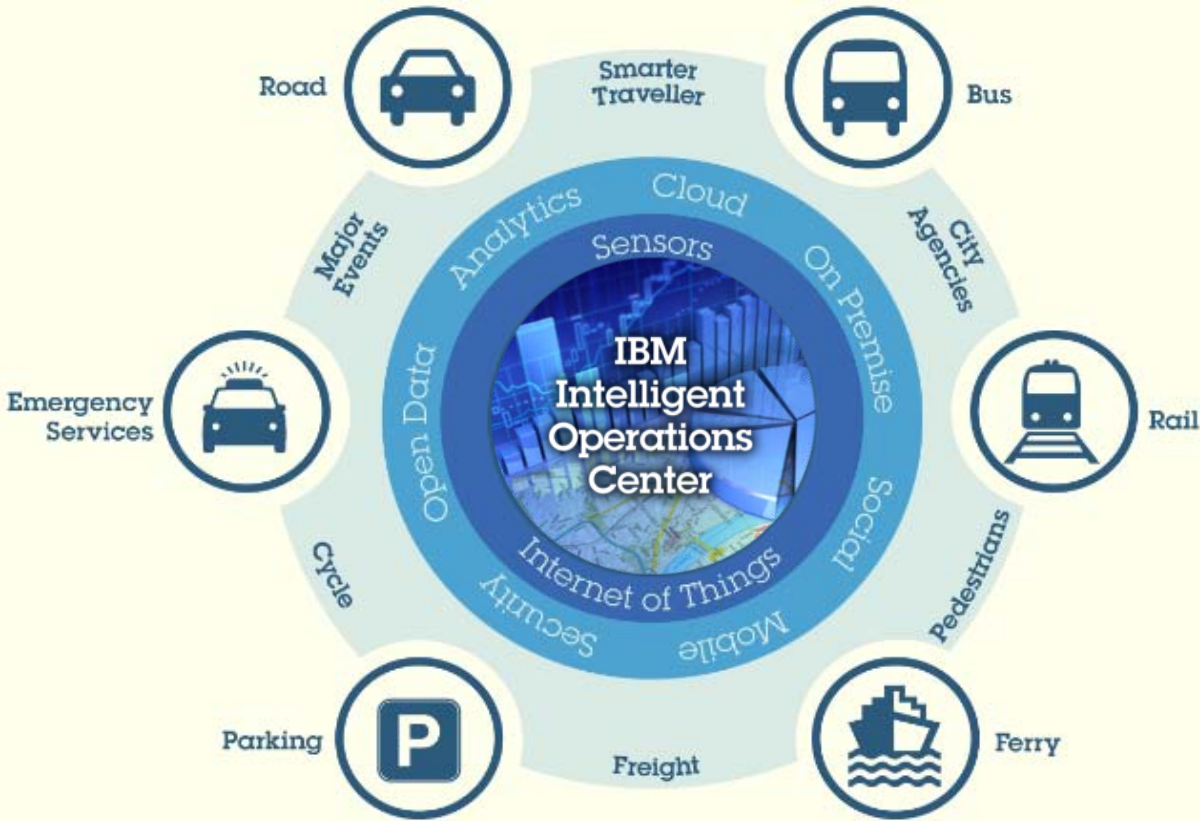
Real-Time Schedule
+
Predicted Arrival Times



AECOM



IBM Intelligent Transport Platform

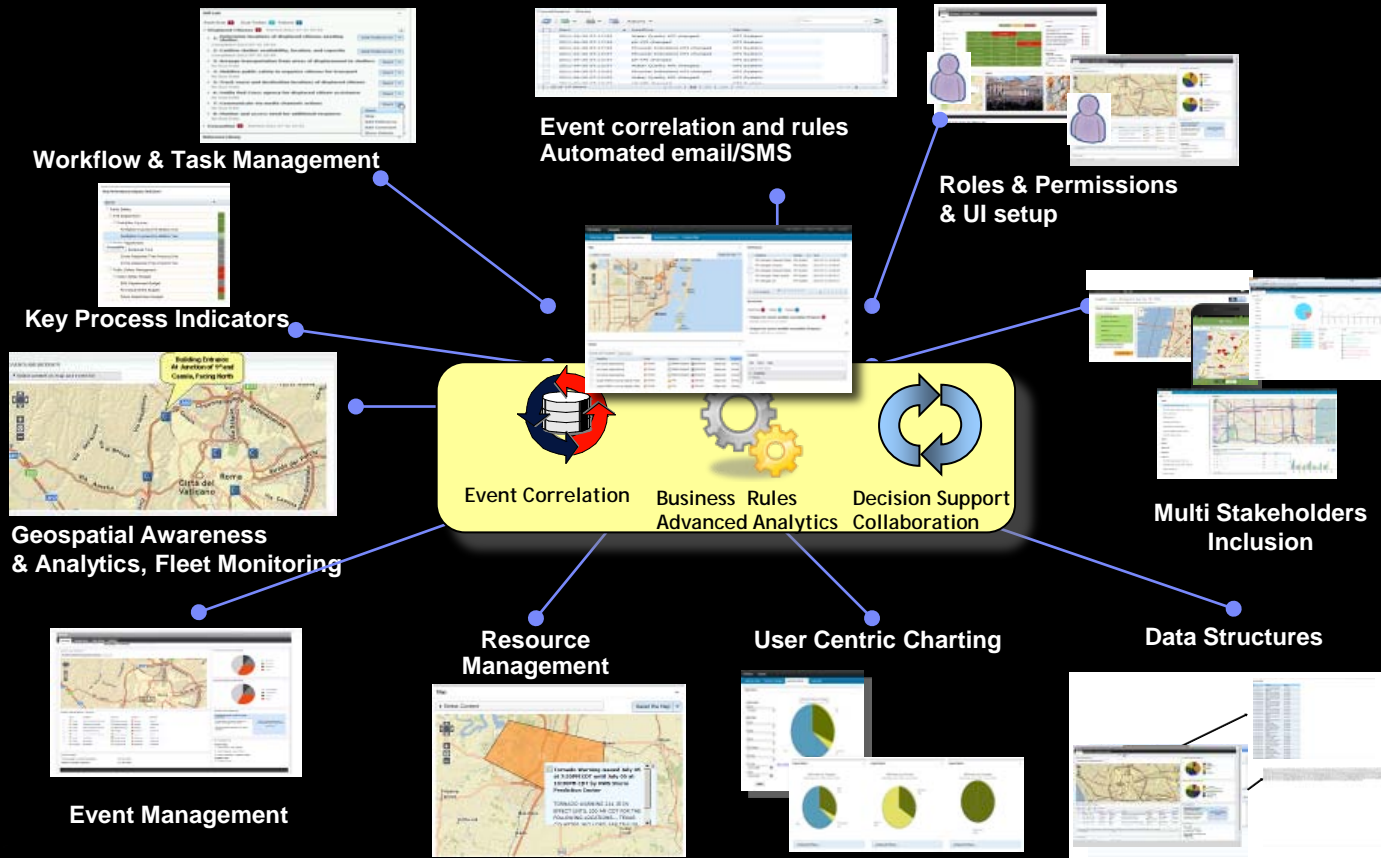


Some key features

- Multi-Modal Management Centre
- Public transit services
- Public Services – Parking, Journey
- Event and Incident Management
- Collaboration across modes and services
- Operation Dashboards (KPIs & reports)
- Prediction – Congestion
- Scenario and Simulation



IBM Intelligent Transport Platform



AECOM







Smarter, Stronger, Safer.

Conclusions

- Customers are driving change
- Advancements in technology
- Intelligent use of data analytics
- Operations centres of the future





.. 'positively impacting lives, transforming communities and make the world a smarter, stronger, safer place to live'.

Thank You

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