IBM SolutionsConnect 2015

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Impacting Outcomes with Predictive Analytics

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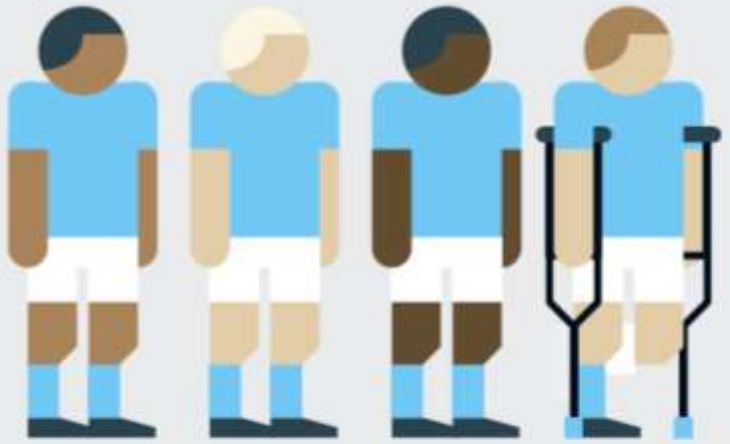
PREVENTING INJURY WITH ANALYTICS

An injured player isn't the only one who feels the pain. The loss of a key team member can negatively impact a club's chemistry, record and fan attendance.

What insights are hidden in the vast amounts of data that you collect on players, matches, injuries, training regimes, treatments, psychological conditions, external factors, pitch conditions, GPS trackers, impact sensors and more….

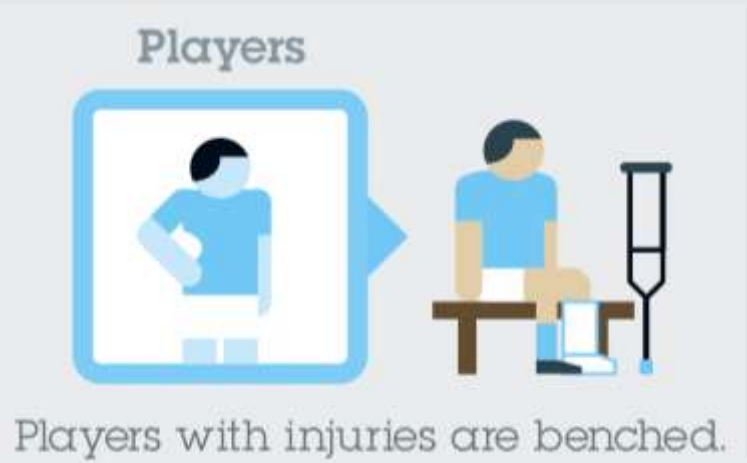
Identifying risks: A physically tough game

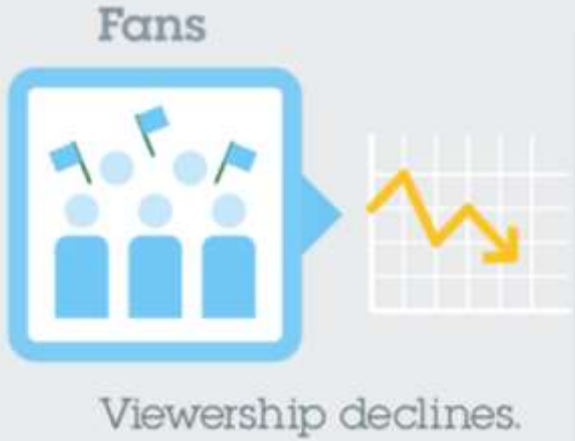
Players make 20-40 tackles per match.



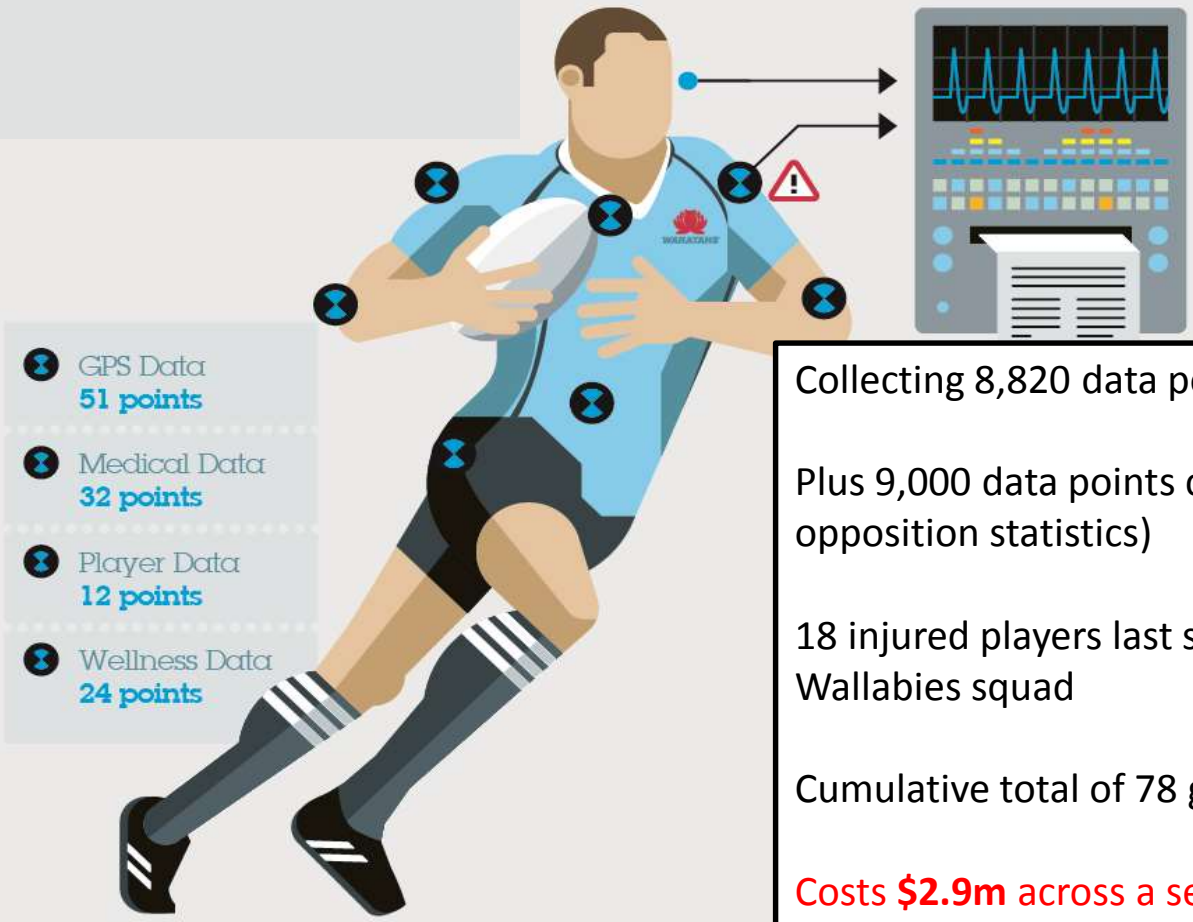
1 in 4 get injured each season.

Missing players cause missed opportunities





Using analytics to avoid injury



Collecting 8,820 data points per week for the squad

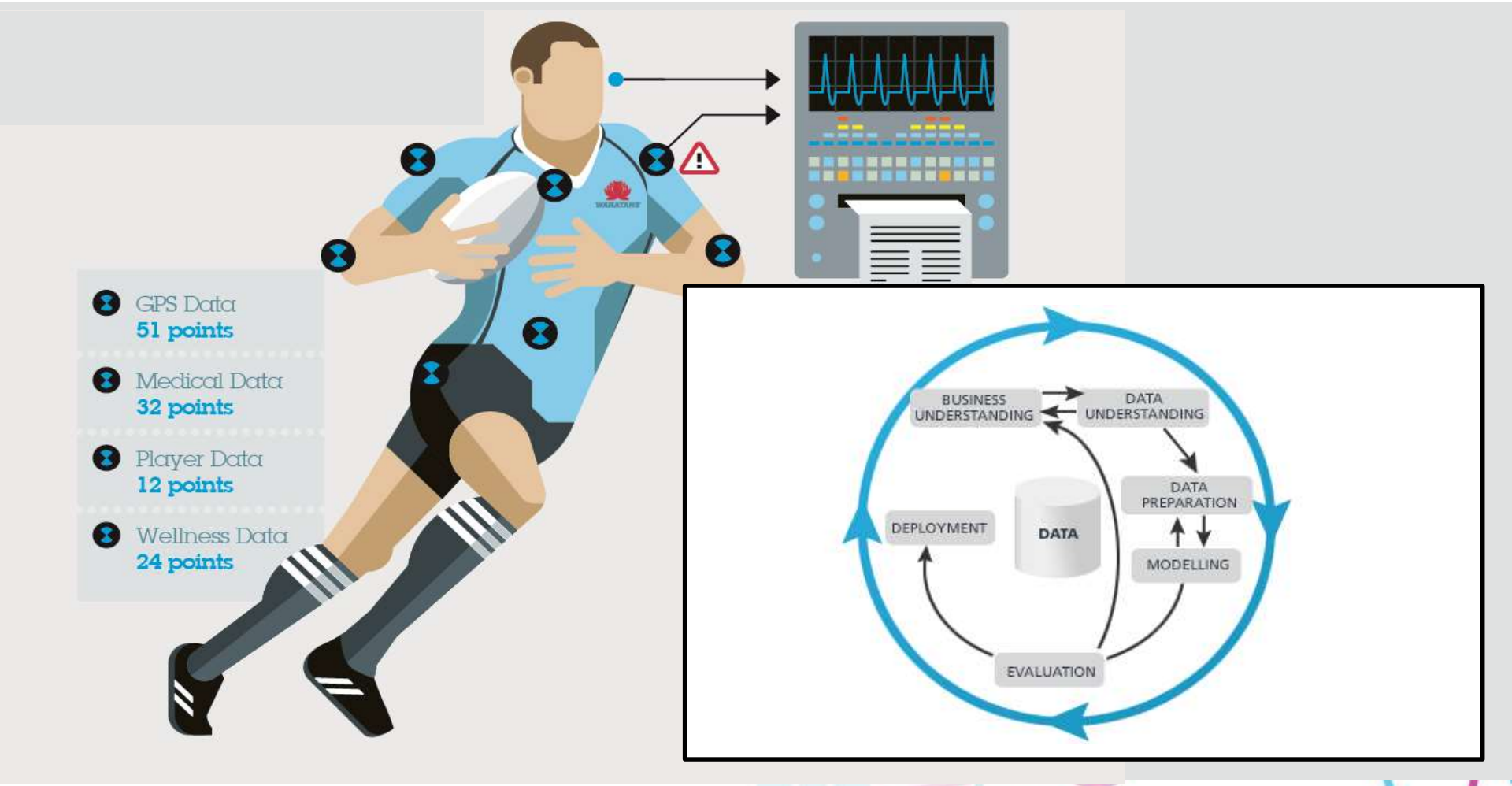
Plus 9,000 data points collected per game (including opposition statistics)

18 injured players last season, 8 were in Australian Wallabies squad

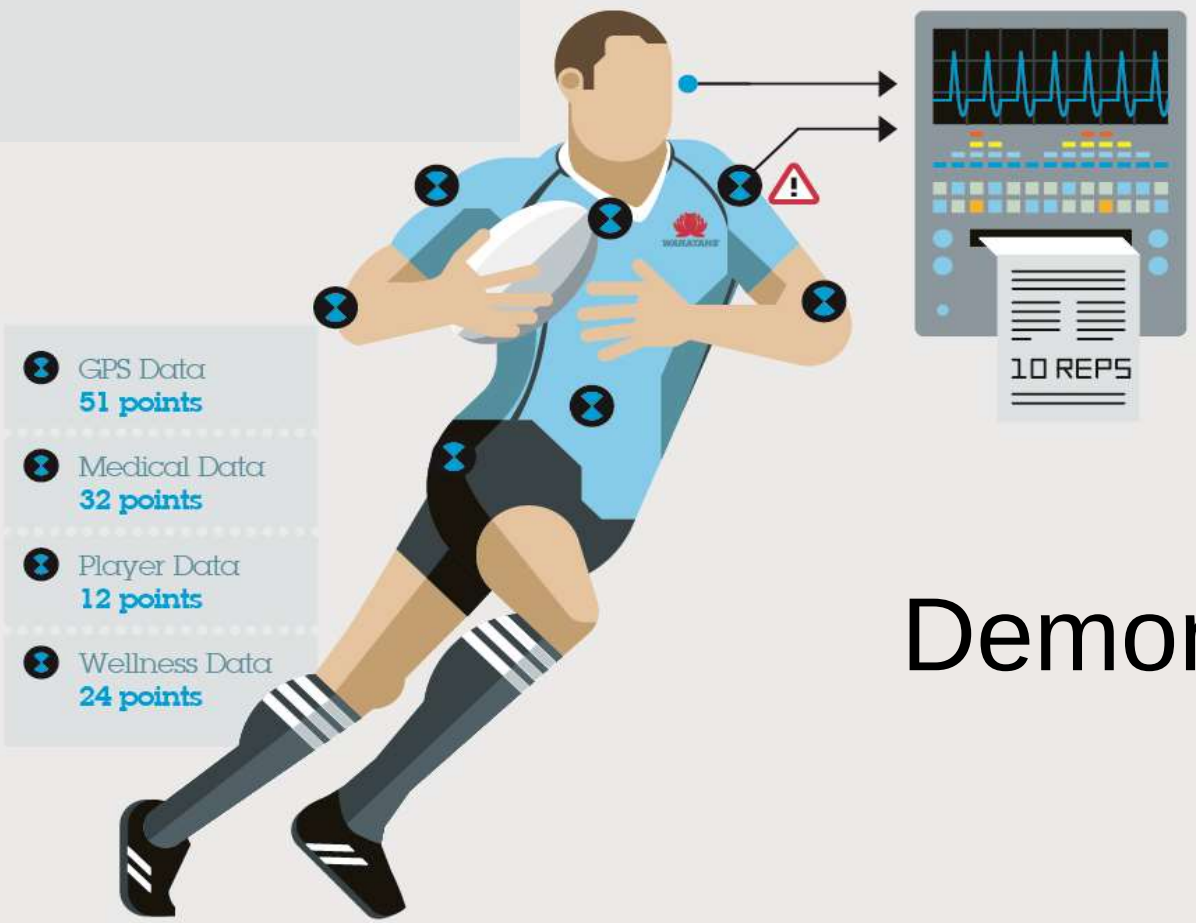
Cumulative total of 78 games missed

Costs **$2.9m** across a season

Using analytics to avoid injury

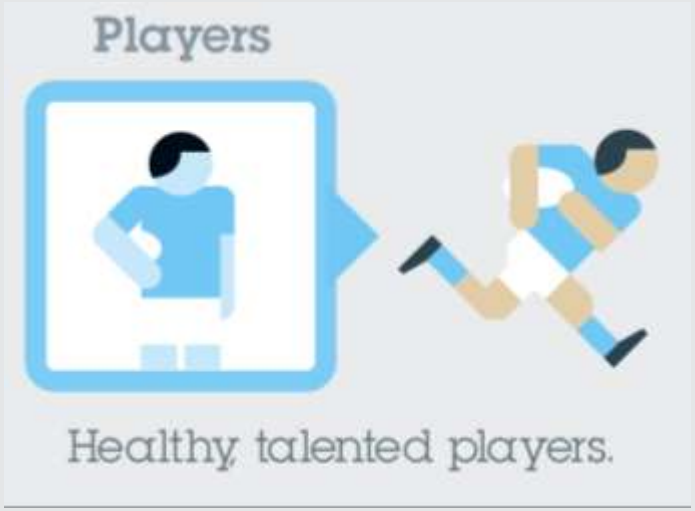


Using analytics to avoid injury



Demonstration

Gaining a competitive advantage



*"The predictive analytics technology gives us a very **objective, sensitive and reliable measure** of predicting each player's limit and his injury risk, allowing us to **modify training accordingly**."*
—Haydn Masters, athletic development manager


VOLVO

Waratahs aren't the only organization placing focus on their operations

Interconnected growth, lower data-capture cost

1 trillion, USD0.03

Number of sensors by 2015[1]

Estimated price of average passive sensor by 2021, representing a 66 percent decrease in eight years[2]

Focus on asset failure

#1

Failure of critical assets was the top risk stated by executives as having the biggest impact on operations[3]

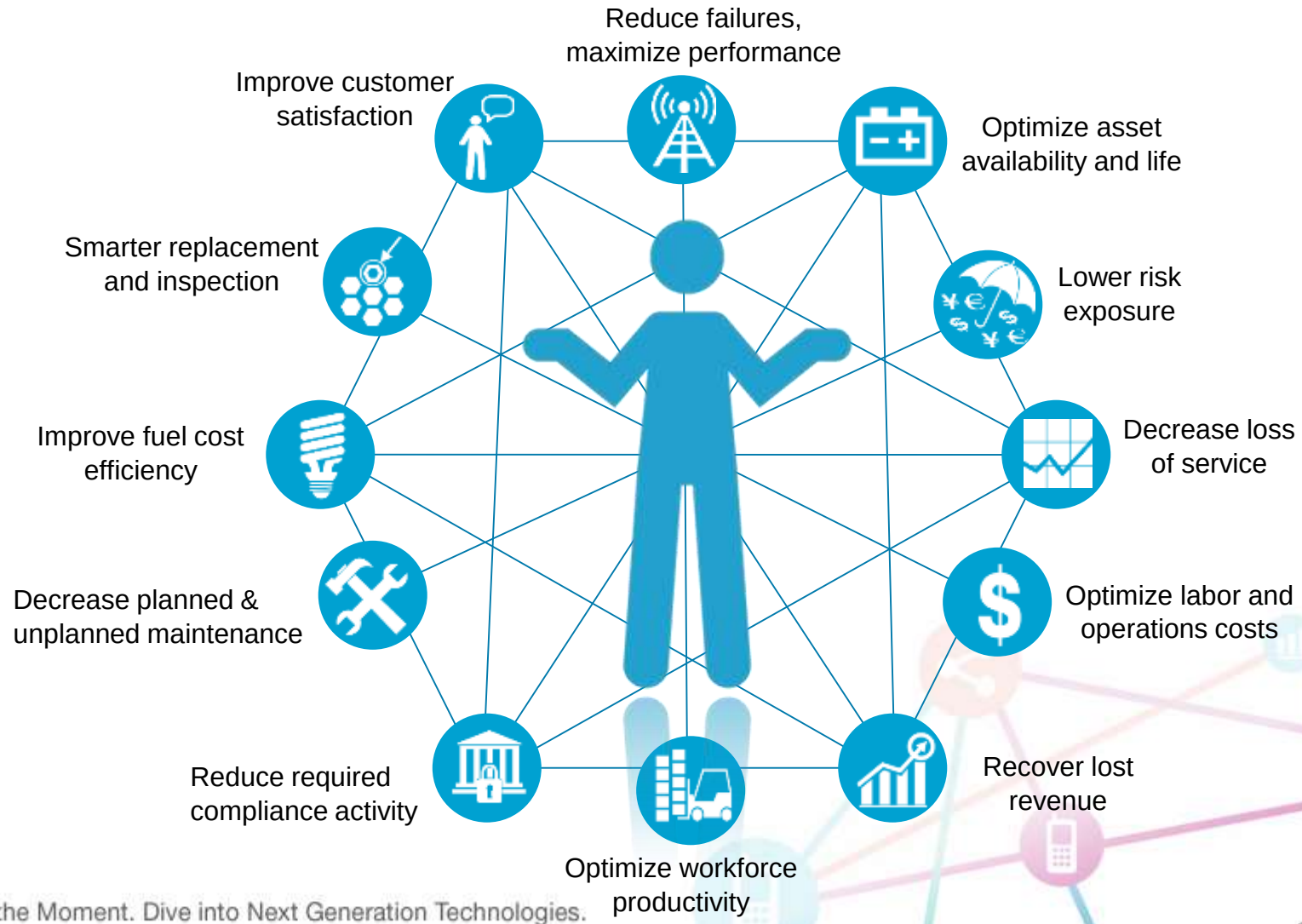
Focus on operational processes

99%

Percent of CIOs with mandates to transform the business who are looking to simplify key internal processes[4]

1Making Markets:Smarter Planet. IBM Investor Briefing, 2012
2 Big Data-Startups, "The Great Sensor-Era: Brontobytes Will Change Society," April 16, 2013.
3 Aberdeen Group, *Asset Management: Using Analytics to Drive Predictive Maintenance*, March 19, 2013.
4 IBM, *The Essential CIO: Insights from the Global Chief Information Officer Study*, May 2011.

And…what if you could?



IBM Predictive Maintenance and Quality (PMQ)

Reduce operational costs

Improve asset productivity

Increase process efficiency

Accelerate time to value

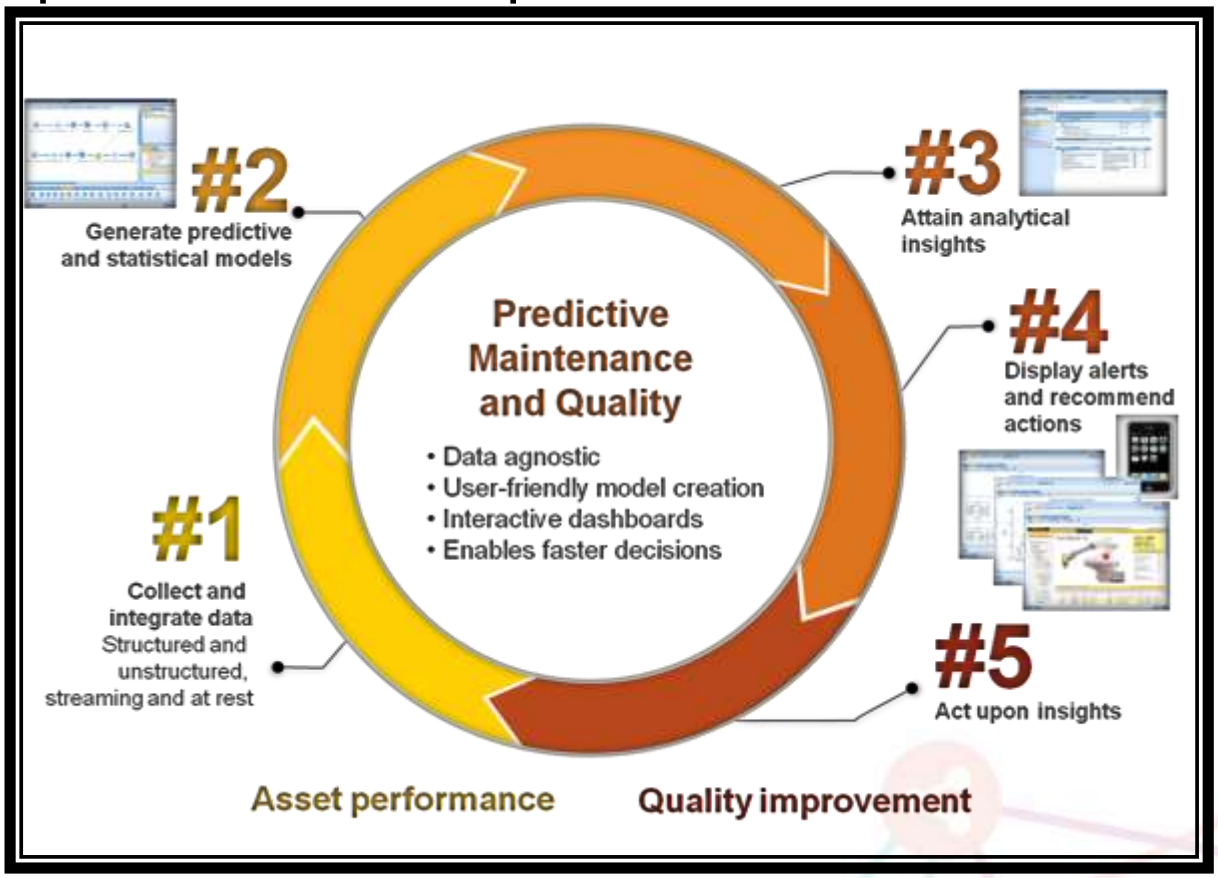
- Real-time capabilities
- Big data, predictive analytics, business intelligence
- Quicker and more-accurate decision making
- IBM Maximo® integration
- Open architecture
- Advanced quality algorithms

PMQ enables better business outcomes

- Monitor, maintain and optimize assets for better availability, utilization and performance
- Predict asset failure and identify poor quality parts earlier to better optimize operations and supply chain processes
- Reduce guesswork and incorporate experiential knowledge during the decision-making process

Includes foundational models, dashboards, reports and source connectors

IBM Predictive Maintenance and Quality analyzes data from multiple sources and provides recommended actions



Seize the M ve into neratio logies.

Pratt & Whitney, an aircraft engine manufacturer uses predictive analytics to prevent costly aircraft-on-ground engine events

100% prediction

of aircraft-on-the-ground events for high-risk engines

97% accuracy

in predicting engine events that lead to airline disruption

USD63 million

in extrapolated cost savings to airlines if prediction had been available in the previous year

Business challenge: This US-based aircraft engine manufacturer collects a vast amount of data about its engines through various databases and sensors, but it had no holistic way of integrating and analyzing the information to proactively address engine issues.

Solution: An analytics platform creates predictive models that automatically alert the manufacturer to different types of impending engine events. These alerts, and a 360-degree dashboard visualization of engine-fleet health and risk status, enable the company to take proactive measures such as ordering and arranging preventive maintenance. These can help prevent a range of engine issues and potentially help the company's customers avoid millions of dollars in costs associated with grounded planes.

The analytics solution helps us answer, at a glance, the big question: how is our engine fleet doing today?

Honda R&D uses predictive analytics to improve the performance and safety of its electric vehicle batteries

50% reduction

in carbon dioxide emissions by commercializing EV technology

Boosts confidence

and customer satisfaction with EVs by improving performance

Improves design

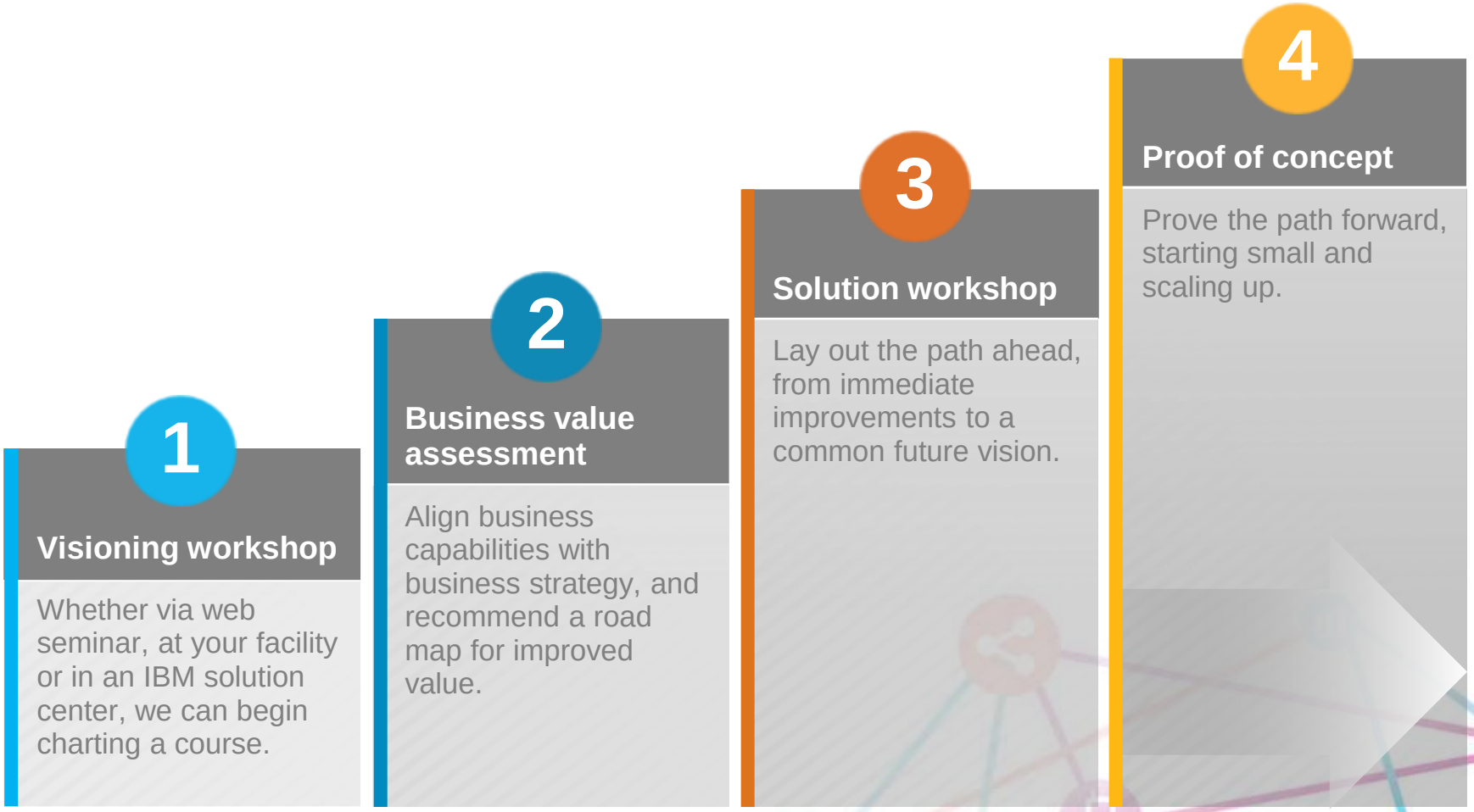
by analyzing massive amounts of operating data

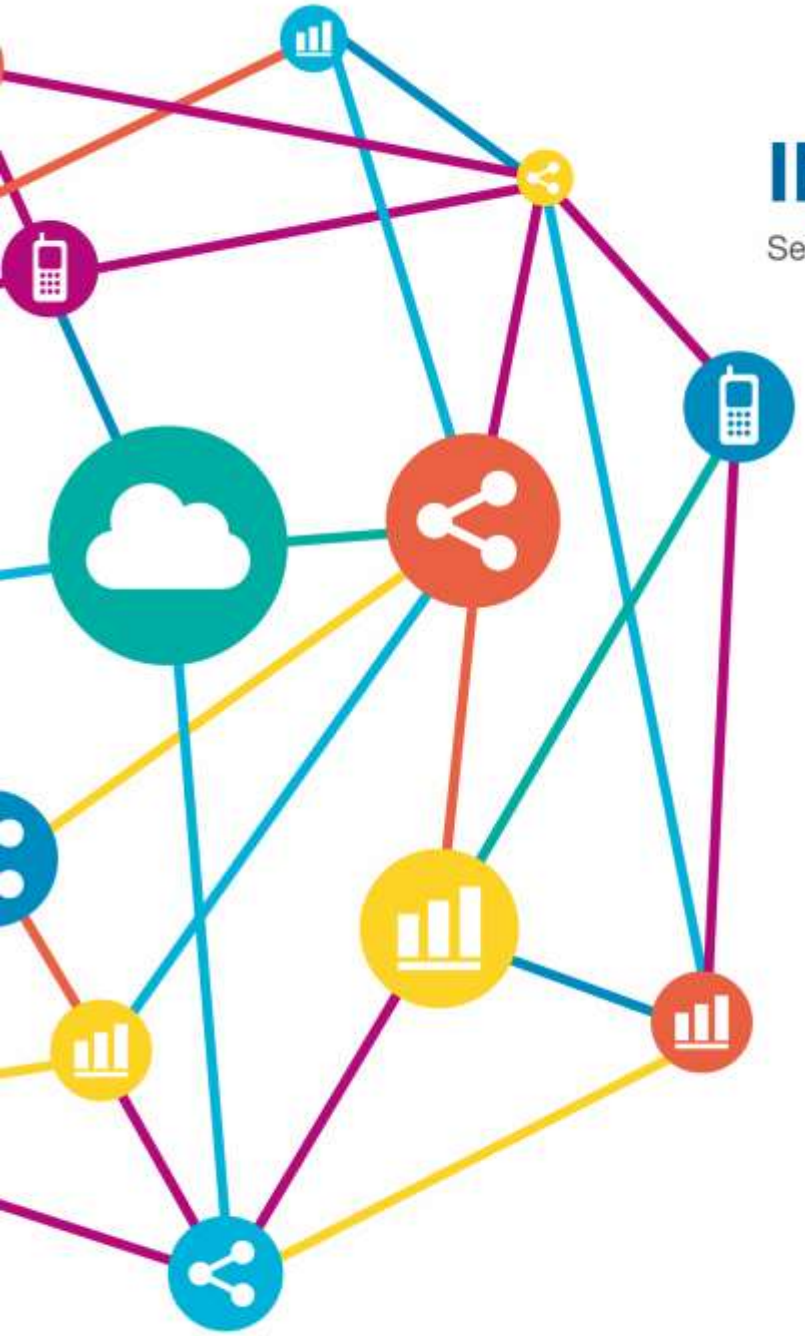
Business challenge: Because all-electric vehicles (EVs) do not use gasoline as do traditional or hybrid cars, they rely entirely on their batteries for power. Honda R&D Co., Ltd., a division of Honda Motor Co., Ltd., wanted to better understand what factors had the greatest effect on battery performance and longevity.

The smarter solution: Honda R&D can now gather and analyze near-real-time battery data from Fit EVs on the road in Japan and the United States. Analysis can identify which operating factors, such as road conditions, charging patterns and trip length, have the greatest effect on battery life. Further analysis can help the automaker predict when batteries need to be replaced so it can alert owners in advance.

"Data gathered from the real-world operation of our vehicles is critical to predict the longevity of current batteries and greatly influences future product design."
—Senior chief engineer, Automobile R&D Center

Let's get started achieving better business outcomes with proven approaches to collaborative problem solving





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Thank You