



DIGITAL TRANSFORMATION IN AGRICULTURE

**THE FUTURE FOR FARMING
THE CHALLENGE FOR THE PACIFIC ISLANDS
THE OPPORTUNITY FOR GIS AND REMOTE SENSING**

**John Magnifico
Chief Executive Officer
Solved (Fiji) Pte Ltd**

"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change"

Charles Darwin (1809-1882)

My Journey



Mission: Deliver solutions to the most complex and difficult problems.

1990's

Transformation of Telecommunications from Circuit to Packet Switched

Automation of Contact Centres through Speech Recognition

Transformation of Telecommunications from Packet Switched to Digital

2000's

Contact Centre Transformation with Computer Telephony Integration

Transformation of Data using Data Warehousing and Business Intelligence

Commercialisation of RFID applications and incorporating them with Advanced Visualisation

2010's

Digital Transformation of Governments and Business – Digital First, Omni channel, connected experiences

Transformation with Big Data and Analytics

Transformation with Robotics and Automation
AI, Machine and Deep Learning

My Story



1 Kids



2 Health

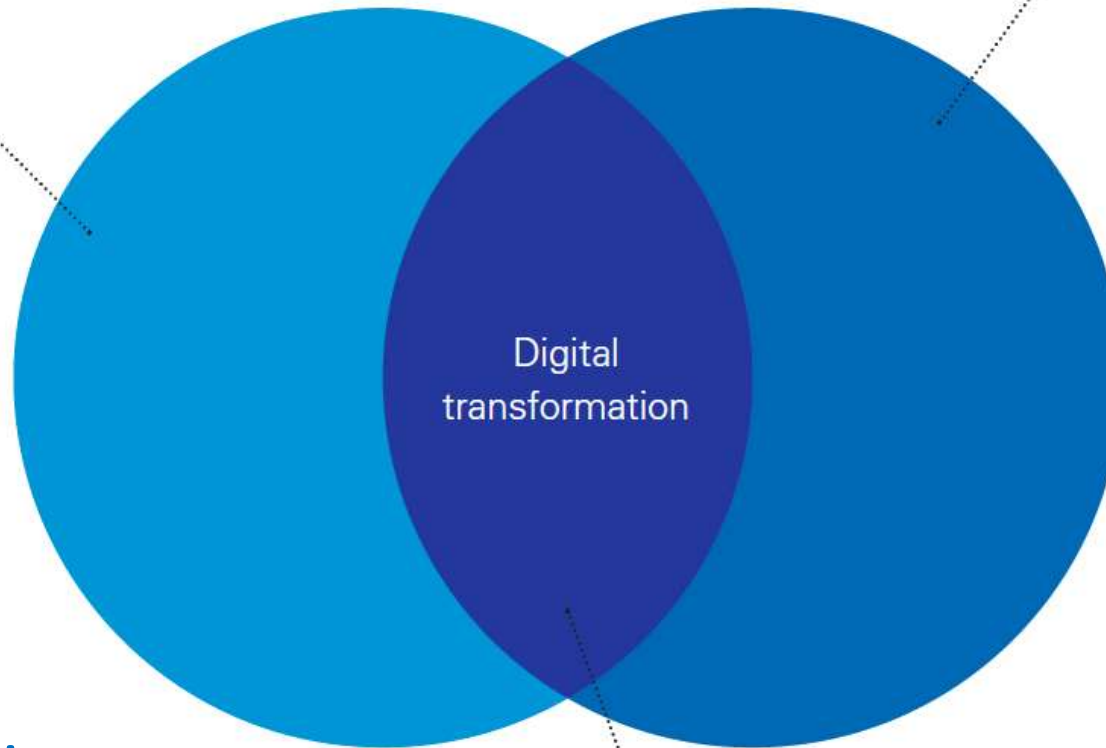
3 Purpose



Mission: Help transform the Pacific Islands from Developing to leading First World.

What Is Digital Transformation?

The term **Digital** reflects the world we live in today. One where there's constant innovation combined with always-on access to vast amounts of data that can be used for better decision making.



Transformation is the evolution of an organization to meet new strategic objectives or to adapt to changing external environments.

Digital Transformation is the change associated with the application of digital technology in all aspects of human society*.

Digital transformation is the evolution of business transformation. One that benefits from advancements in technology because we now live in the digital world. Organizations are able to innovate and create value in entirely new ways to build a sustainable competitive advantage.

* Source: Stolterman, Erik; Croon Fors, Anna (2004). "Information Technology and the Good Life". *Information systems research: relevant theory and informed practice*. p. 689. ISBN 1-4020-8094-8.

One of Society's Greatest Challenges

TODAY, THERE ARE MORE THAN 7 BILLION PEOPLE ON THE PLANET, A FIGURE THAT'S EXPECTED TO REACH 9.6 BILLION BY 2050.¹

THESE FIGURES ARE ALREADY BEING ADJUSTED TO UPWARDS OF 11 BILLION PEOPLE (EVEN MORE).

BY THEN, THE MIDDLE CLASS—WHO TYPICALLY HAVE MORE MONEY AVAILABLE FOR FOOD, LEADING TO GREATER DEMAND—COULD REACH 5 BILLION PEOPLE BY 2030.²

IF THESE NUMBERS HOLD, OVERALL FOOD PRODUCTION WILL NEED TO DOUBLE IN A RELATIVELY SHORT PERIOD OF TIME TO MEET DEMAND TO FEED THE WORLD'S POPULATION.³

1 World population projected to reach 9.6 billion by 2050 with most growth in developing regions, especially Africa says UN. © 2013 United Nations.

2 OECD (2012), OECD Yearbook 2012: Better Policies for Better Lives, OECD Publishing. http://www.oecd-ilibrary.org/economics/oecd-observer/volume-2011/issue-5_observer-v2011-5-en

3 Food Production Must Double by 2050 to Meet Demand from World's Growing Population, Innovative Strategies Needed to Combat Hunger, Experts Tell Second Committee. General Assembly, Meetings Coverage.

Agriculture – The Least Digitised Industry

\$7.8 Trillion Industry – representing 10% of Global GDP

Yet Agriculture has been the slowest on uptake in technology but is changing fast!

Digital Agriculture or Agriculture Technology (AgTech) is of interest for the venture capital

Investment in AgTech broke records for the past three years in a row, reaching \$4.6 billion in 2015.



Acquiror	AgriTech Target	Technology	Deal Size (\$m)	Year
Bayer CropScience	AgraQuest	innovative biological pest management solutions based on natural microorganisms	425	Jul-12
Syngenta	Pasteuria Bioscience	biological products to control plant-parasitic worms	86	Sep-12
BASF	Becker Underwood	crop protection/seed treatment	1,002	Sep-12
Monsanto	Climate Corporation	expertise is in data science	1,000	Oct-13
DuPont	Taxon Biosciences	integrated biological solutions for agriculture	na	Apr-15

The Good News

NEW DIGITAL TECHNOLOGIES CAN COLLECT AND LEVERAGE HUGE AMOUNTS OF CRITICAL DATA AT MINIMAL COSTS

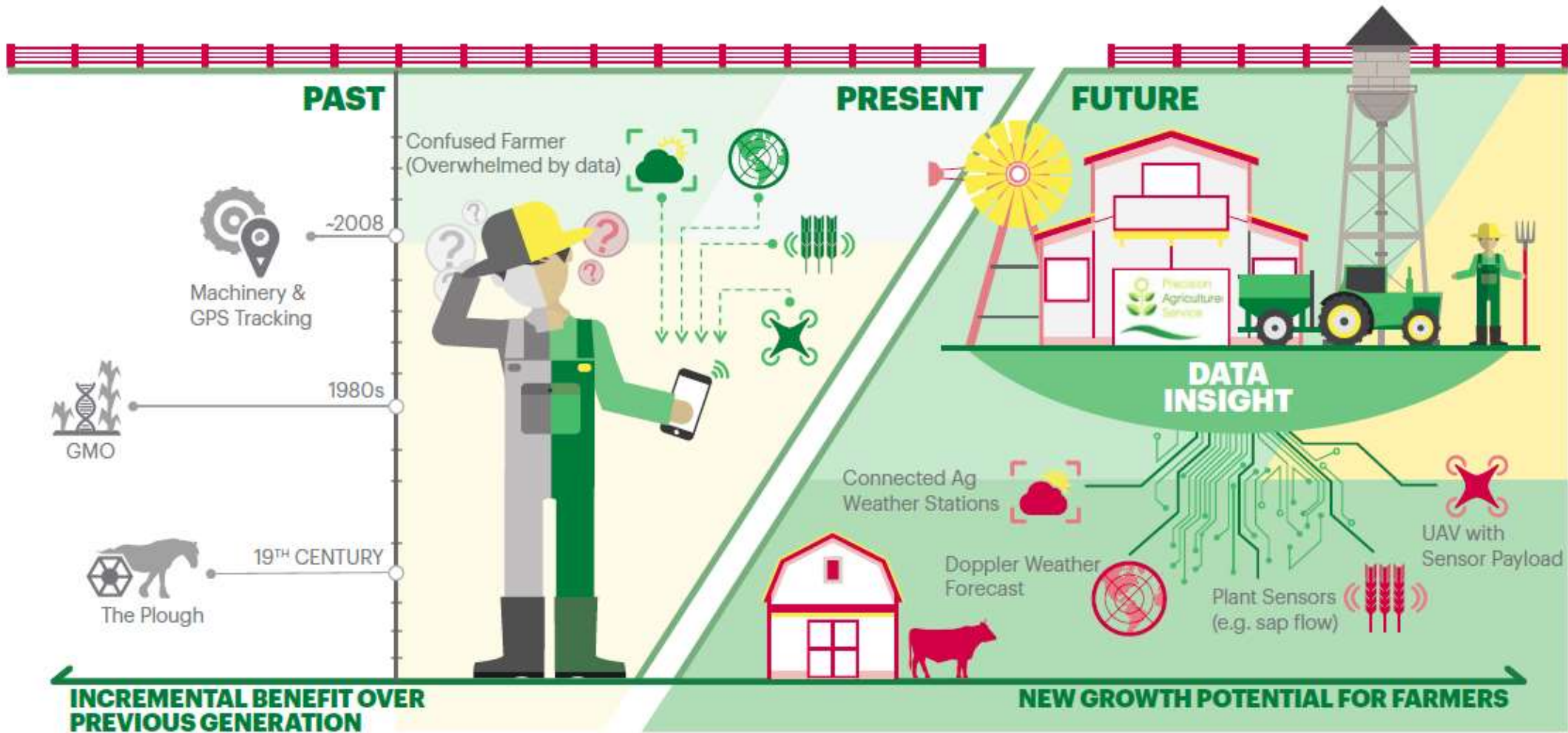
THUS MAKING A FARM'S FIELD OPERATIONS MORE INSIGHT-DRIVEN, AND POTENTIALLY MORE PRODUCTIVE AND EFFICIENT

THE TOTAL MARKET SIZE FOR DIGITAL-BASED SERVICES IS EXPECTED TO GROW AT 12.2% (CAGR) FROM 2014 AND 2020 AND REACH \$4.55 BILLION. ⁴

GREATER USE OF DIGITAL AGRICULTURE SERVICES IS VITAL TO NOT ONLY IMPROVING A FARM'S FINANCIAL PERFORMANCE, BUT ALSO TO MEET THE FOOD NEEDS OF AN EXPANDING POPULATION.

⁴ Precision Farming Market by Technology (GPS/GNSS, GIS, Remote Sensing & VRT),

The Evolution of Digital Agriculture



Digital Transformation in Agriculture

The Opportunity



IT IS CLEAR THAT DIGITAL AGRICULTURE HAS CONSIDERABLE UNTAPPED POTENTIAL.

LEVERAGE THE GIS, REMOTE SENSING AND OTHER TECHNOLOGY EXPERTISE IN THE PACIFIC ISLANDS TO LEAD THE....

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John Magnifico
Chief Executive Officer
Solved (Fiji) Pte Ltd
+679 837 5953
john@solvedgroup.com



Janice Nand
Director
Solved (Fiji) Pte Ltd
+679 906 7721
janice@solvedgroup.com