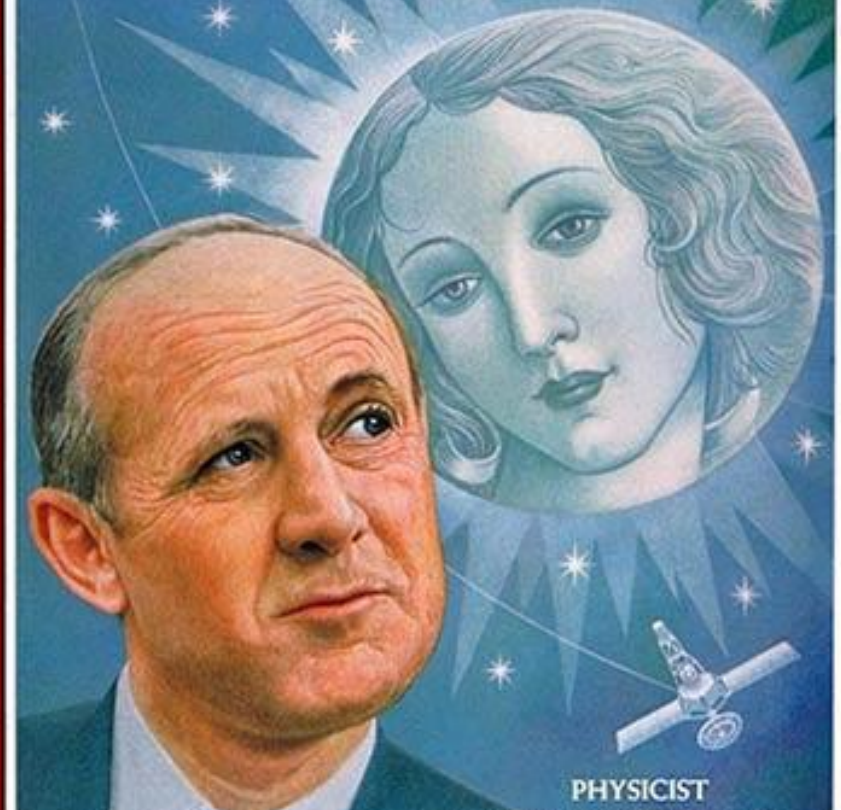

Stratospheric Remote Sensing
Mark Rocket

VENUS: What Mariner

TIME

THE WEEKLY NEWSMAGAZINE

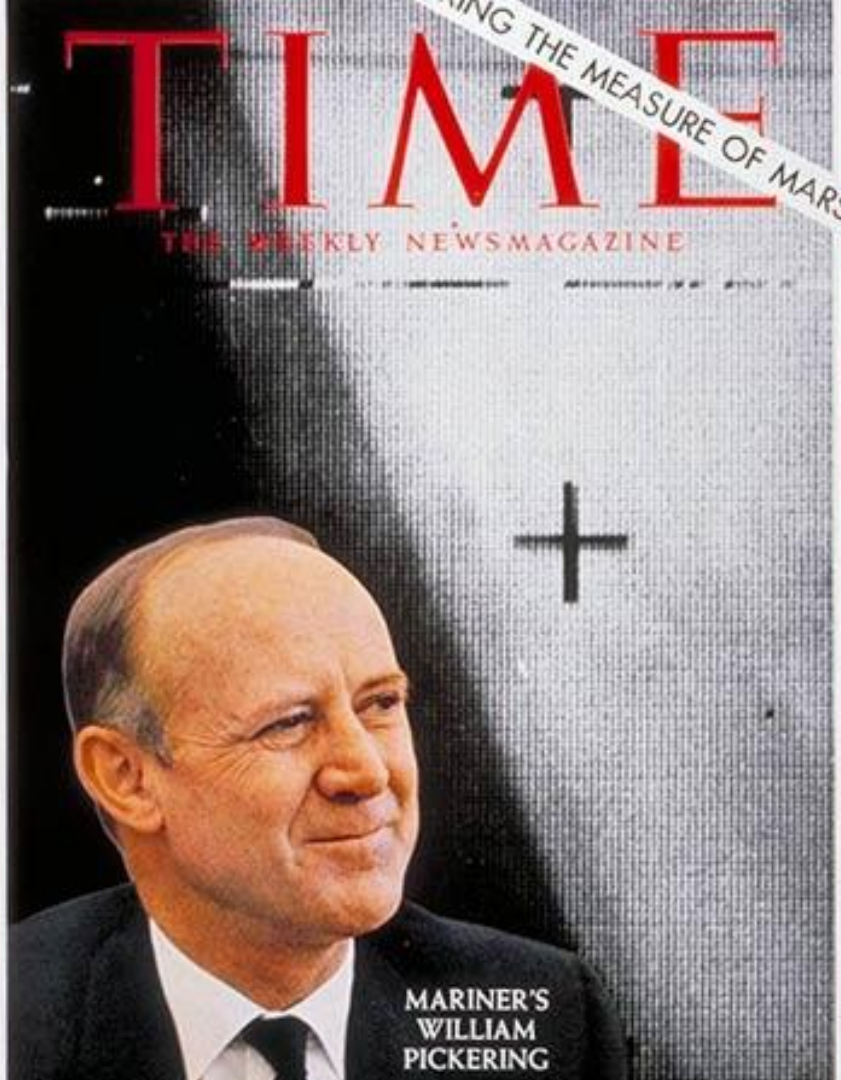


PHYSICIST

ING THE MEASURE OF MARS

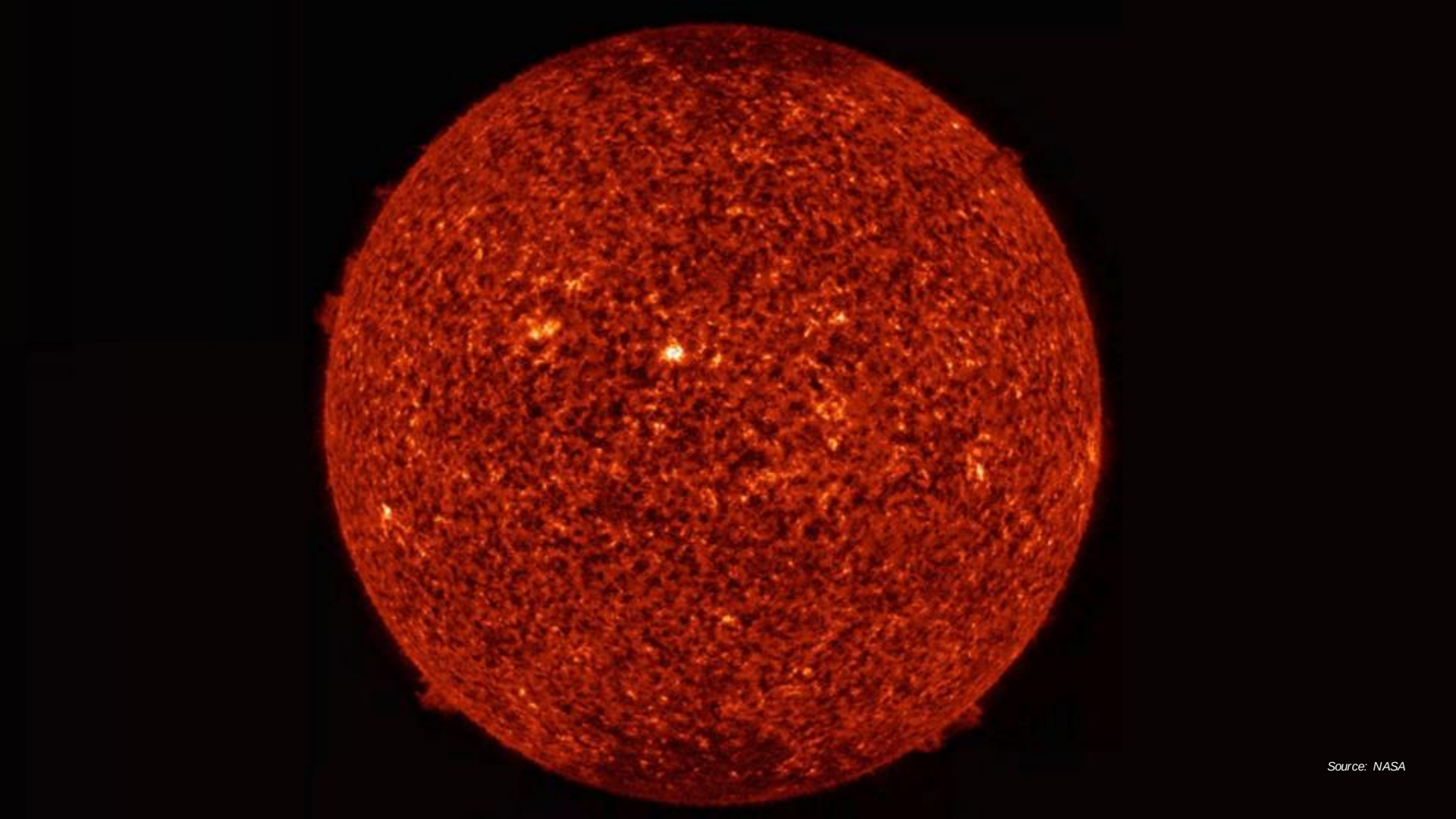
TIME

THE WEEKLY NEWSMAGAZINE



MARINER'S
WILLIAM
PICKERING

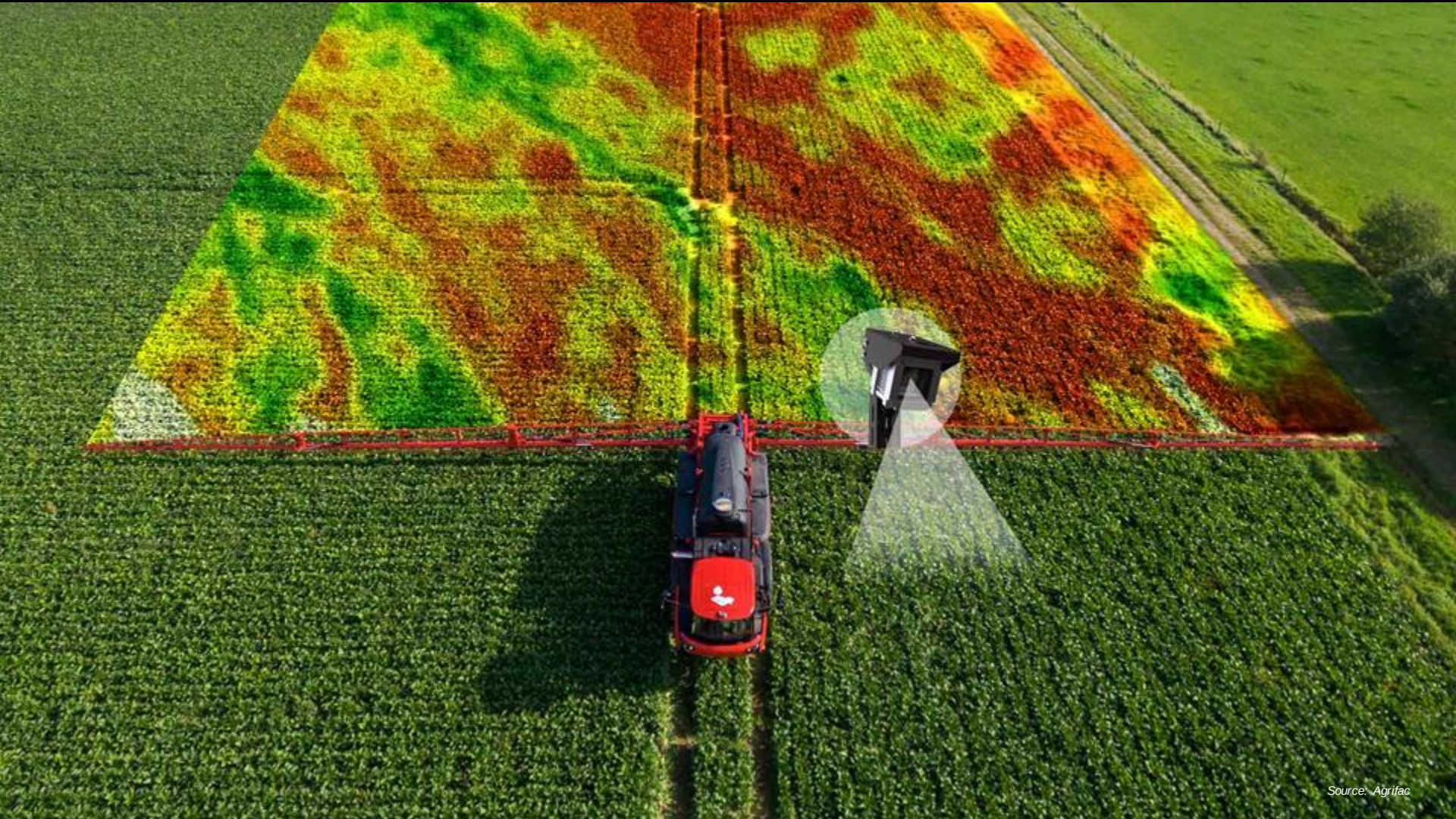

Kea Aerospace



Source: NASA


Source: RNZ

Source: PWC



Source: Agrifac

Source: World Ocean Review

Source: VCU

Problem

You can’t solve a problem you can’t see!

Free low resolution

Pricey medium resolution / low update rate

Expensive and labour intensive

Low update rate

Data Intelligence Gaps

Environment

Smart Cities

Forestry

Precision Agriculture

Maritime

Disaster Management

The Kea Atmos

Continuous flight | Solar powered | Zero emissions | Versatile payloads

Kea Atmos Mk1

1 Day Flights

- 12.5 m wing span
- 50,000 ft altitude
- 75 - 110 km/h
- <40 kg weight
- 2-3 kg payload
- 0.7 m image resolution

Kea Atmos Mk1

Kea Atmos Mk2

Multi Week / Multi Month Flights

- 30 m wing span
- 60,000 ft altitude
- 75 - 110 km/h
- <150 kg weight
- 5.5 kg payload
- 0.15 m image resolution

Kea Atmos Payloads

Multi-Spectral Cameras

Ideal for algorithm-based analysis (e.g. plant health)

Image resolution better than the best satellites

Synthetic Aperture Radar (SAR)

Can penetrate clouds and operates day & night

Elevation profiles / snow thickness

Kea Atmos Advantages

Crewed Aircraft

- Pricing: High Expense
- Pixel Resolution: High
- Updates: Periodic
- Coverage: Limited

1 km

Kea Atmos

- Pricing: Competitive
- Pixel Resolution: High
- Updates: Frequent
- Coverage: Broad

20 km

Satellites

- Pricing: Expensive
- Pixel Resolution: Low-Med
- Updates: Limited
- Coverage: Broad

400 km

March 2023 NASA Visit

NASA

Project: Next-Generation Airborne Remote Sensing: High Altitude Persistent Coastal Ocean Monitoring

Partners: NASA Ames Research Center and Jet Propulsion Laboratory (JPL)

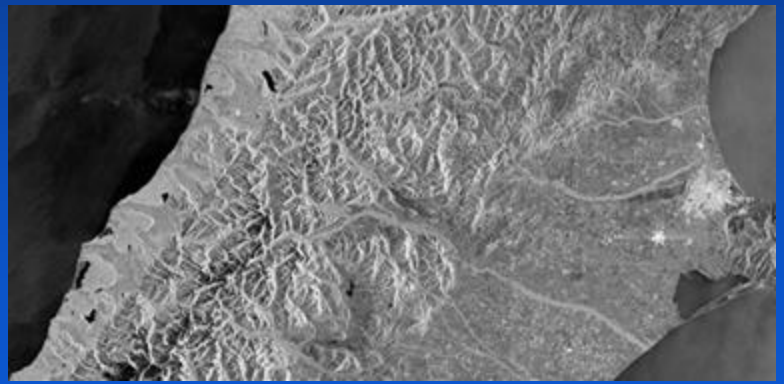
Focus: Testing assumptions in remote sensing techniques and engineering requirements with the goal to fly suitable NASA camera systems for remote sensing of the coastal regions of New Zealand

German Aerospace Center (DLR)

Project: An Eye In The Southern Sky

Partners: The Institute of Optical Sensor Systems and the Microwaves and Radar Institute

Focus: To integrate optical cameras and radar systems onboard the Kea Atmos aircraft. Developments in remote sensing tools onboard persistent high-altitude aircraft will provide a significant capability jump from current technology used by satellites and short-duration low-altitude aircraft



Tāwhaki National Aerospace Centre

Project: Environmental monitoring and weather analysis

Community: Collaborating in Tāwhaki's dual kaupapa of supporting Aotearoa New Zealand's aerospace industry and rejuvenating the unique whenua of Kaitorete

Focus: We aim to develop a transformative data pipeline to shed light on some of the key environmental issues impacting the Kaitorete area

Ministry Of Business, Innovation & Employment

Project: Assess operational airspace risk over maritime territory and Beyond Line Of Sight operations

Partners: New Zealand Airspace Integration Trials Programme

Focus: Long endurance Uncrewed Aerial Vehicles can play a significant role in managing New Zealand's 4 million square kilometres maritime domain.

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Other Projects

UC UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

RMIT UNIVERSITY

Te Kāwanatanga o Aotearoa
New Zealand Government

SOAR

Bentley®

geoimage

ORBICA

STARDUST

Competitors

Leadership Team

Mark Rocket | CEO

22 years of internet & data company operation

Sold Internet Startup for $9M

Rocket Lab seed investor/Co-Director 2007-2011

President of Aerospace New Zealand

Dr. Philipp Sueltrop | CTO

3.5 years at German Aerospace Center (DLR)

PhD in Rocket Science

Expert in rocket and UAV design

Edmund Hillary Fellow

Dr. Wolfgang Leitner | Director

Multi-entrepreneur with two successful IPOs

Long-term (25+ years) CEO and largest shareholder of EUR 6 billion global engineering company

Frequent venture capital investor

Vision

Comprehensive global aerial intelligence

Customer Focus

Fleet of Kea Atmos operating worldwide

Swift data collection with an on demand pipeline

Quality data enabling quality decision making

Global Impact

Empower green aerospace technology

Improve the environment and reduce emissions

Collect and distribute climate change data

Mark Rocket | +64 21 67 50 50 | Mark@KeaAerospace.com | www.KeaAerospace.com

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