Welcome To
Lex^{X} Transit

Digital Intelligence for Optimised Maintenance

LEX^{X} TRANSIT

The Challenge for Transit

The primary challenge is to optimise the availability and on-time performance of our clients' fleet vehicles

Vehicle downtime results in:

- Revenue loss
- Additional costs
- Brand damage
- Sub-optimal use of capital




The Challenge In Perspective

Critical knowledge is inaccessible due to
Fragmented Systems

- ERP
- Maintenance Management
- Document Management
- Inspection Management
- Sensors

Man hours are wasted on
Manual and Disconnected Processes

- Handwritten Forms
- Electronic Forms
- Manual Reports
- Emails
- Multimedia (e.g. Photos)
- Phone calls, Memory recall

Inefficient use of engineers time with
Lack of Automation

- Spares Management
- Tool Requests

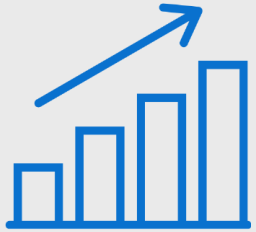
Experienced mechanics retire and airlines lack
Knowledge Retention

- Knowledge

Business Impacts

Today the Transit Industry...

80.7 per cent of employers reported experiencing a skills shortage in the last 12 months [2017 Australian Industry Standards Survey results]



The transportation mobility technology space continues to grow at approximately 20% per year, fuelled by aftermarket telematics solutions as well as OEM offerings

Of the 2017 US Public Transportation operating expenditure, 42 percent went to vehicle operations ($19.9 billion), 16 percent to vehicle maintenance ($7.8 billion), and 12 percent to non-vehicle maintenance ($5.6 billion).

Public transportation systems in the United States operated 149,104 railcars, buses and vans in a typical peak period during 2017, out of a total of 181,652 vehicles available for service

Transforming Maintenance

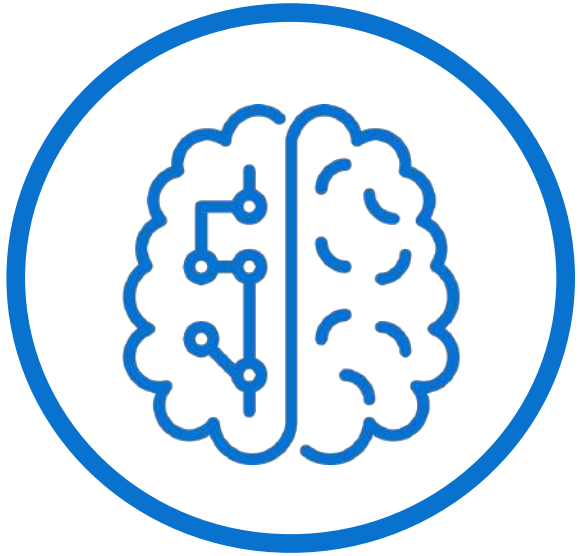
With Artificial Intelligence and Machine Learning

Artificial Intelligence (including Machine Learning and Neural Networks) enables a system to learn, self-improve and interpret as it performs a task, refining over time through strategic trial and error.

Natural Language Processing fills the gap between human communication and computer understanding.

Big Data allows systematic extraction of information from large and complex datasets.

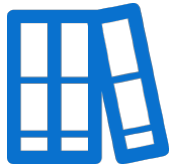
Our unique utilisation of these technologies allows us to perform tasks such as skilled analysis, pattern recognition, image and speech recognition, analysis of massive amounts of data, and sophisticated decision making.



AI works like a human brain, but with advanced analytic and processing power

Achieving Optimised Maintenance

Requires a system that:



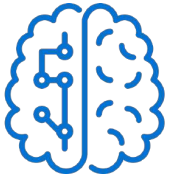
Provides the right **technical information** at the right time and place

Instructs and guides the mechanic

Enables real-time collaboration between mechanics

Advises if the right **tools are available** and their location

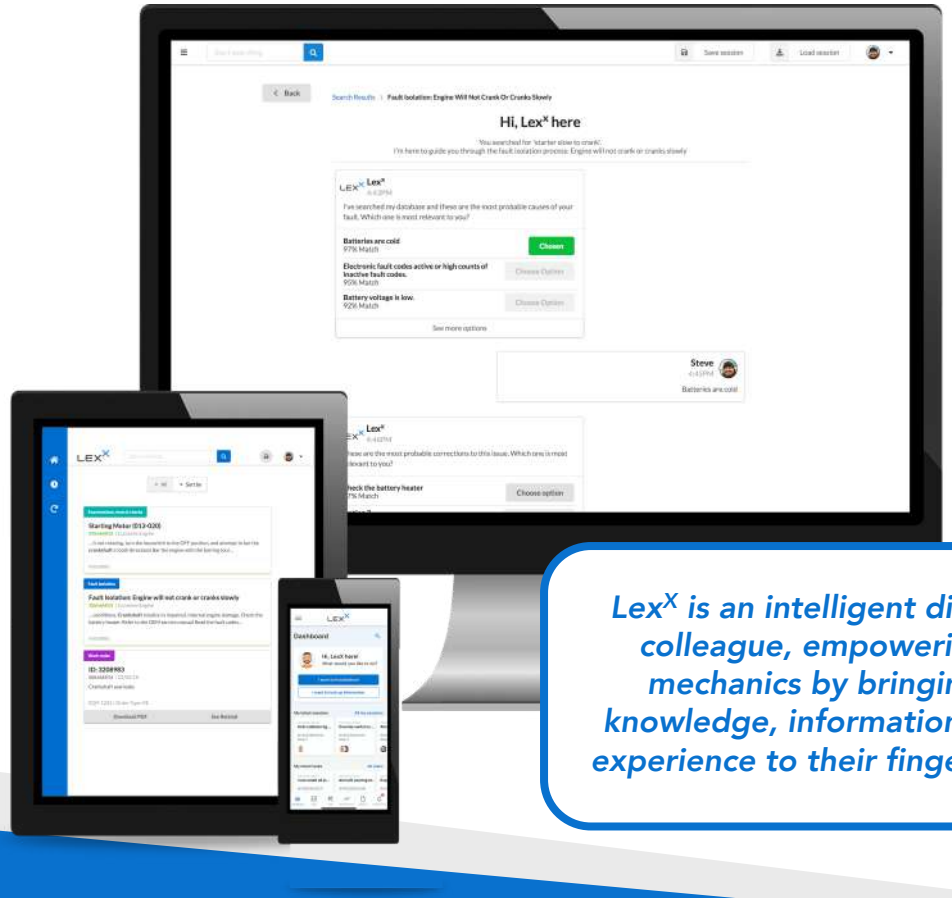
Ensures **optimisation** of the use of spares



Continuously **learns and optimises** the maintenance process

The Lex^{X} Platform

Provides the Solution



Lex^{X} is an intelligent digital colleague, empowering mechanics by bringing knowledge, information and experience to their fingertips.

- Provides a **natural language interface** to all relevant in-house systems (eg., ERP, Maintenance and Doc Management) so as to extend and enhance their capabilities
- Utilises any device (phones, tablets, etc.) to provide solutions at **the right time and place**
- Is a **digital intelligent system that learns** from:
  - Asset behaviour
  - Mechanic behaviour
  - Organisational Data
- Guides the Mechanic at all stages of the maintenance process, providing advanced troubleshooting capabilities

Lex^{X} *Delivers. Enables. Empowers.*

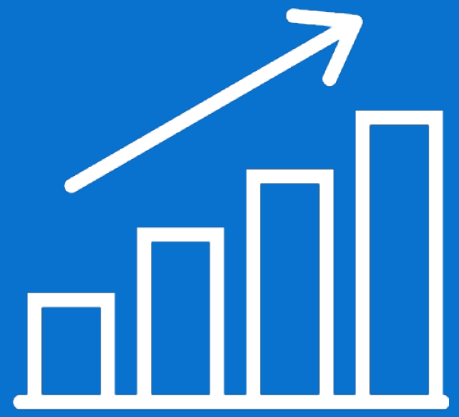
- Makes all technical information available through **one platform**
- **Unlocks inherent knowledge and wisdom** in underutilised data
- Enables the ongoing **capture of field experience**
- Provides **data-driven insights**
- Provides **collaborative digital tools** for mechanics
- **Reduces risk** of Maintenance errors
- Aids with fleet management **strategies** and vehicle **longevity**

Better Maintenance Decisions, Faster

The Value Lex^{X} brings to Maintenance Operations

Improved fault isolation resolution times and overall operational efficiency

Improves spares utilisation and lowers operating costs

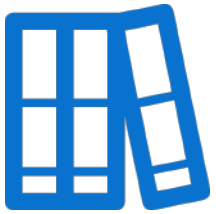


Improved fleet availability and on-time performance

Enables the capture and retention of valuable knowledge

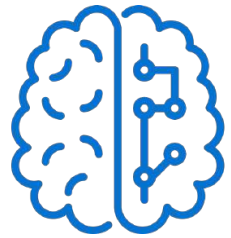
Empowers the modern day mechanic with a modern age technology

How our Technology Works



Lex^{X} Ingests all technical information (**digital and handwritten**) and structures the data in a unique manner to facilitate the AI and NLP capabilities of Lex^{X}.

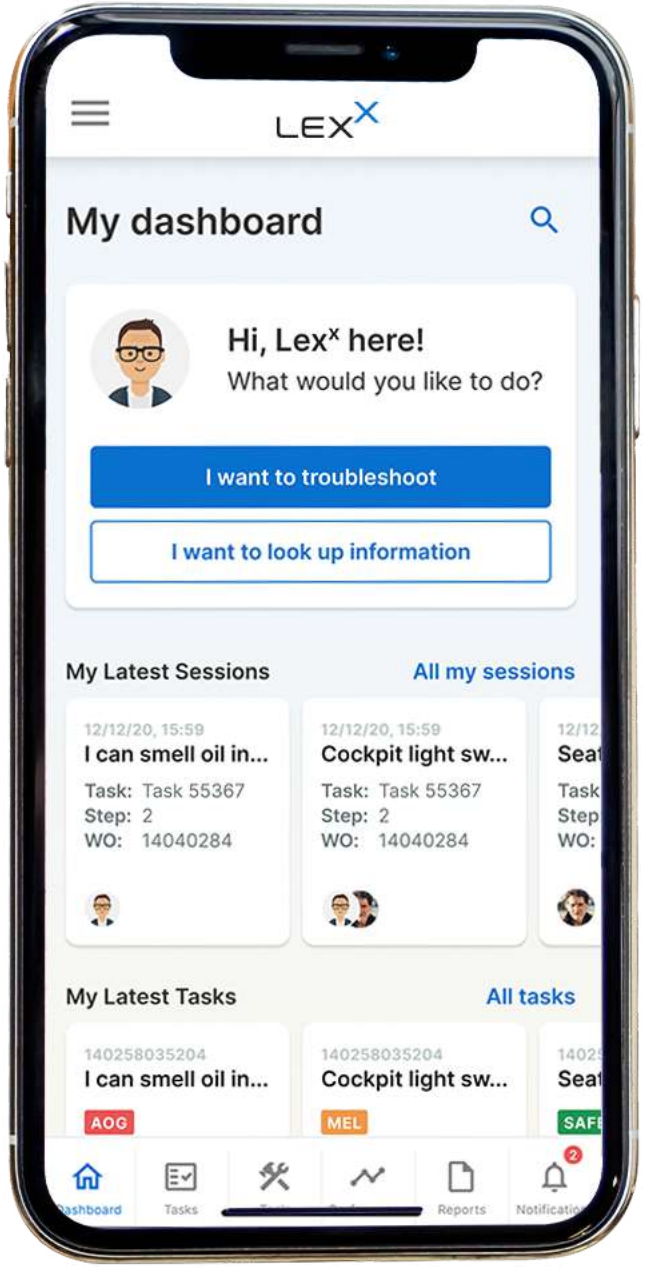
This information is used to provide solutions and guide the mechanic through **Natural Language interaction** (in Conversational style, like having an instant messaging discussion with a human)



Lex^{X} utilises AI and Machine Learning to **learn over time** from your organisational data, mechanic interaction, and equipment behaviour, so that troubleshooting is continually refined.

How our Technology Can Be Used

The user interface is customised around individual Client requirements and processes



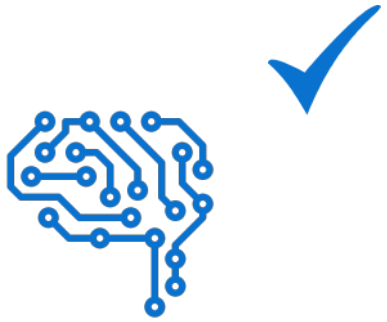
Lex can be used in the following Maintenance areas:

- Troubleshooting;
- Planned, preventive and breakdown maintenance;
- Performance diagnostics and analysis;
- Compliance & reporting;
- Issue and problem management;
- Fleet life cycle management;
- Training and simulation;
- And publication management

…and even more

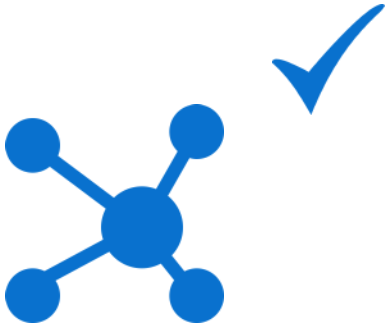
Lex^{X} Platform Features

What Do You Get?



Intelligent Maintenance Assistant

Configurable for Client need or specific maintenance use-cases (i.e. fault management, parts lookup)



Synergy Suite

Bring the team to context for help, advice, or approval

Performance and Reliability Dashboards

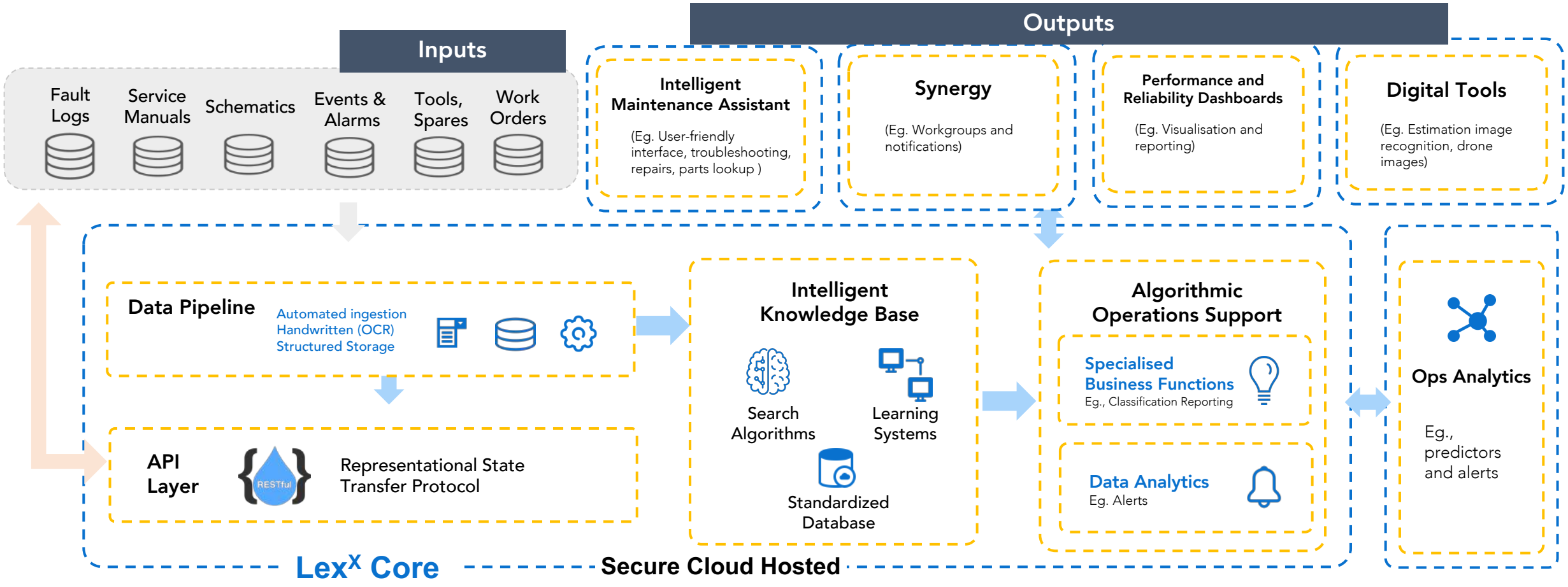
Configurable dashboards for performance management and reliability engineering user groups

Digital Tools

Tools that empower the mechanic, such as automation for repetitive tasks (i.e., estimation, image recognition, drone images)

Lex^{X} Platform Modules

How Is It Powered?



Our Vision

Our vision is to **transform Maintenance** for our Transit Clients by **empowering every mechanic** every day

Enabling the Lex^{X} Vision

With Maintenance 4.0

Industrie 4.0 originated from a high-tech strategy initiative of the German Government

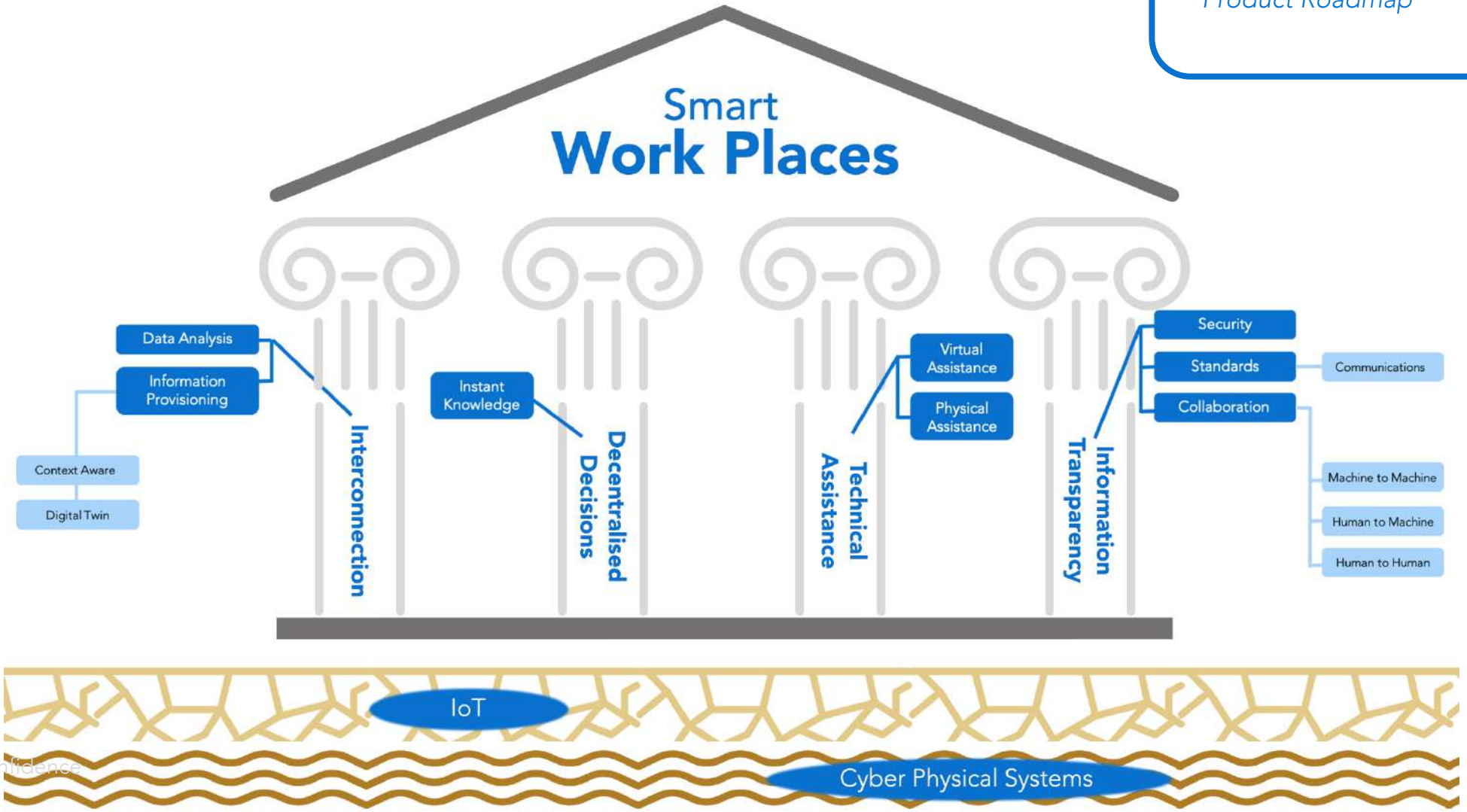
Lex^{X} CEO and Founder, Anant Sahay, coined the phrase Maintenance 4.0, applying Industrie 4.0 philosophies into the area of maintaining systems rather than manufacturing them.

Maintenance 4.0 will revolutionise maintenance operations around complex equipment by use of new and emerging technologies, new philosophies and the move to a fully digital world.

Maintenance 4.0

The Future of Maintenance

The four pillars of our Maintenance 4.0 vision will continue to drive our Product Roadmap



Success Stories

EnergyAustralia
LIGHT THE WAY

"Lets you find the fault and make the decision **straight away***"*

EnergyAustralia Technician

*"***Lex^X is addressing a critical challenge** *that the global industrial sector faces amidst a paradigm shift in workforce demographics and dynamics."*

Krishna Navalpakkam, Global Strategy

Schneider Electric

الإتحاد
ETIHAD
AIRWAYS

"…it may help us **reduce the TAT of providing technical solution by 15 minutes.** *This number is quite significant if the solution is for minimizing operational disruption"*

Etihad Engineering Executive

"We identified a distinct need to invest in and bring up the best in startups and SMEs worldwide to lead in this revolution. We're excited by our engagement with Lex^X and look forward to **delivering their innovative capabilities across our O&M portfolio***"*

Carla Pimenta, EDP Group Innovation Head of Startup Engagement

edp renewables

Jetstar

"The Lex^X platform is most certainly **the most succinct, intuitive and relevant aircraft trouble shooting platform I have utilised** *in my 30+ year aviation engineering career. The fact it is linked to the OEM documents is clearly critical and certainly saves considerable time when assessing faults as they "roll in".*

Darren Stone, Licensed Engineer, Jetstar Engineering and Managing Director of Asset Excellence

Awards

Winners – Schneider Electric Bold Ideas Challenge | Global Innovation Summit

Winners – EDP Global Innovation Award | Lisbon Web Summit

Our Partners

Lex[X] is a proud partner of the following organisations, each experts within their fields

Why is Lex^X Unique?

What Others Say:

We believe that the Lex^X platform is an evolutionary, unique product. By incorporating machine learning concepts it has set an industry best practice of enhanced data-driven MRO operations

Frost & Sullivan

What We Say:

We have a user-centered design approach for product development – Lex^X is trained to understand the user, instead of the user needing to understand Lex^X

George Mathew | Lex^X Product Director

US Patent Pending (Application No. 63/031, 751)

Lex^X is created **in** *the digital age,* **for** *the digital age,* **purely** *for maintenance operations*

Operating Principals

Anant Sahay
Founder and CEO

Anant is an entrepreneur, inventor, thought leader, published author, aviation domain expert, and Data Scientist, with consulting, IT architecture and project management credentials. He is a qualified Production Engineer, with MBA. Anant has 30 years experience in the aircraft MRO field, including 15 years as world-wide domain expert for IBM.

Mike Harris
Head of Aviation, Defence, and Key Verticals

Starting in Aviation in 1979 when he joined the Royal Australian Air Force as an apprentice fitter, Mike has always looked to "make things better".
In the last decade or so, Mike was in Senior Engineering Management roles, including multiple stints as a CASR Part 42 "Responsible Manager" with a significant Australian. Recently was the "Manager Engineering Technology and Innovation", and looking to focus entirely on Aviation Innovation at a Global level.

Nishant Sahai
Chief Technology Officer

Nishant has served in several leadership positions in the aerospace industry and the not-for-profit sector, including the process improvement group of the Boeing 787 Dreamliner and Senior National Lead Advisor at the Australian Red Cross Blood Service. Nishant holds a Bachelor of Engineering from RMIT, and a Master's in Business Analytics from Deakin University.

Operating Principals

Hersh Sahai
Director Global Sales

Hersh has held positions at IBM and Accenture advising senior executives of Fortune 500's in Enterprise Asset Management and Supply Chain Optimization. Hersh holds a patent with the USPTO in data analytics, a B.A. in Economics from the University of Sydney and a dual M.B.A. from both Columbia Business School and London Business School.

George Mathew
Product Director

George is a business and technology leader, with credentials in delivering business and economic outcomes leveraging technology, strategy and design to enterprise clients globally. George has an engineering degree and over 25 years of experience, having held key leadership roles at Cochlear, IBM and Infosys Australia.

Michael O'Sullivan
Commercial Director

Michael has qualifications in finance and law (B Comm. LLB) gained from the University of NSW. He has an extensive background in building businesses including a key role as Commercial Director of KAZ Group Ltd. Michael has, in recent years, held similar roles across a number of technology based businesses.

Thank You

Meet your Challenge

CONTACTS

E hello@lexxtechnologies.com

W www.lexxtechnologies.com