

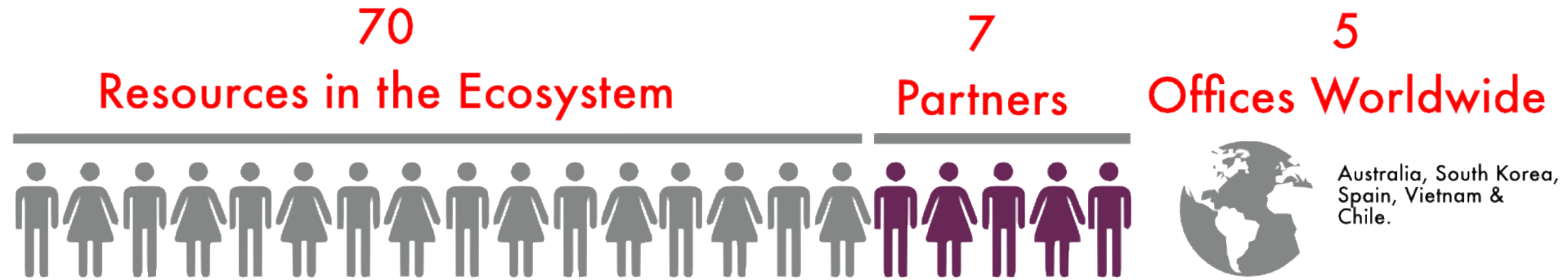
Changing the Paradigm



Diriger



Diriger was founded in 2018 and now has:



What makes working with Diriger different?



Deep industry experience
and subject matter expertise



Small teams
of hands-on senior experts who deliver tangible results



Close client collaboration
to embed lasting change



Iterative,
hypothesis-driven approach to problem solving



Agile teams
with a flexible, client-centric working style

Why Interoperability?



Imagine that you are visiting an international conference with people from across the globe, and that everyone speaks a different language. How do you communicate with everybody? There are three basic options:

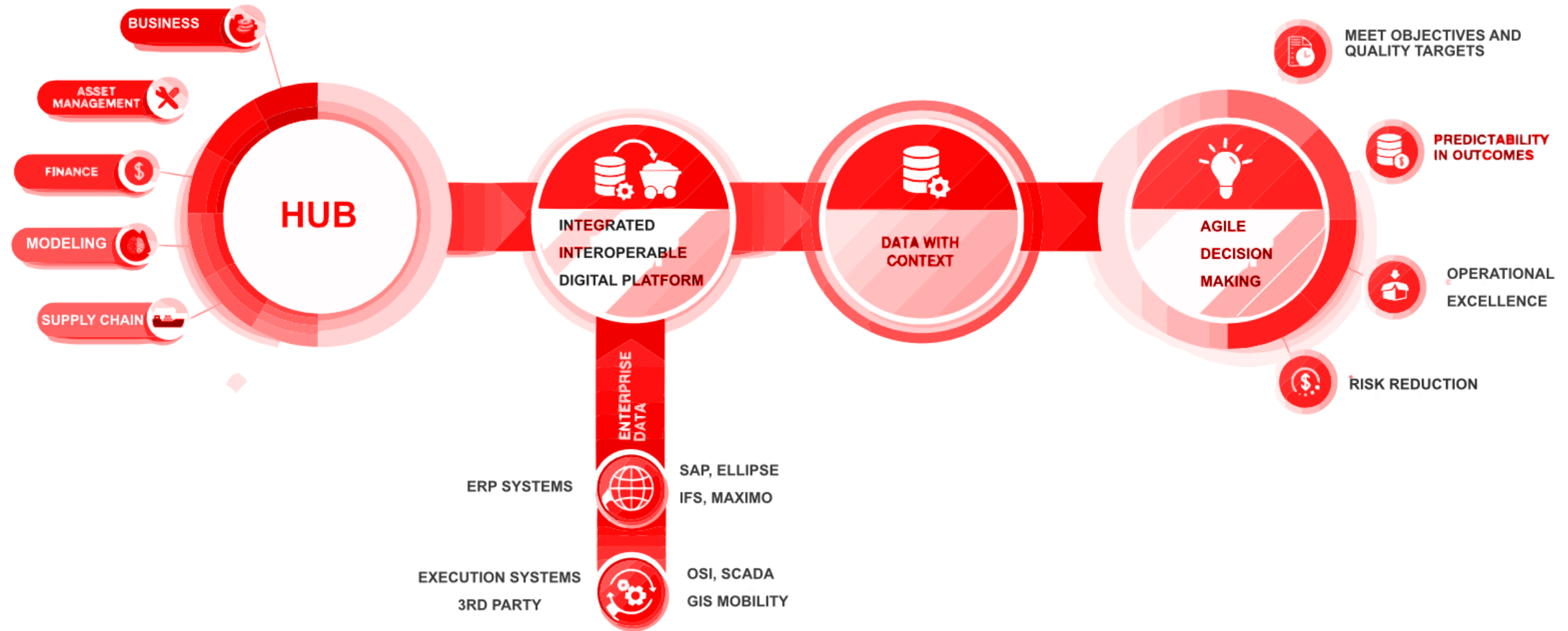
1. Everyone learns every single language spoken at the conference
2. Hire a translator for every language at the conference
3. Everyone learns ONE common language

Options 1 and 2 are “integrations”, where 1 is a direct integration (everyone learn everyone else’s language) and 2 integrates via “middleware” (i.e., the translator). These options require a custom translation to each participant.

Option 3 is “interoperability” - everybody learns the same ONE common language. The benefits of interoperability in this scenario are clear.

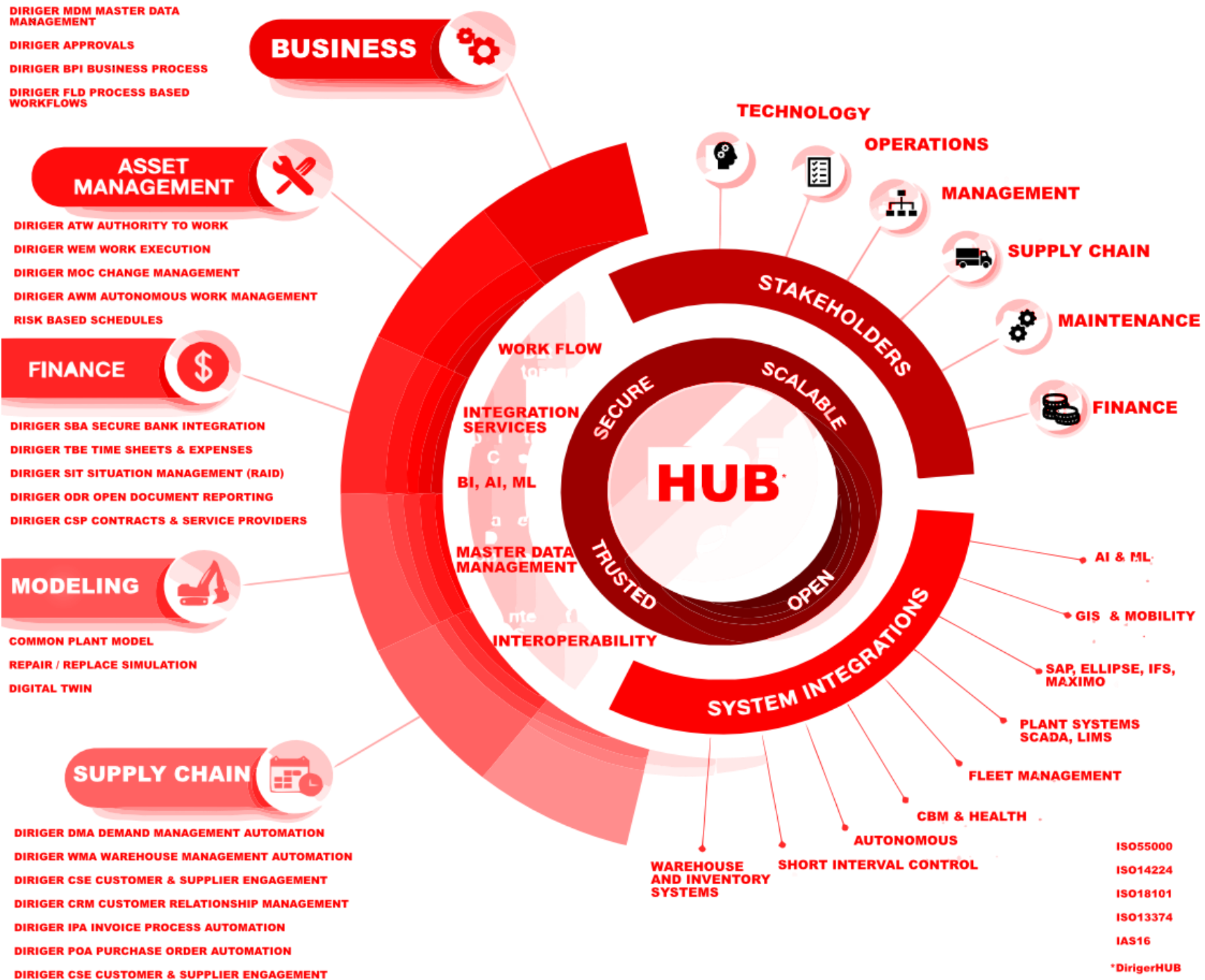
When systems have **interoperability**, they communicate via a common language with no translation required.

Strategy & Outcomes



HUB

THE CLOUD
INTEROPERABILITY
SERVICE



BUILT ON DIRIGER HUB INTEROPERABILITY AND COMPOSABLE PLATFORM



Our DirigerHUB Enabling Platforms make use of the latest technologies, such as:

Artificial Intelligence and Machine Learning	Highly scalable and accessible cloud deployments	Micro Services and Containerisation	PWA (Progressive Web Applications) for mobile and offline capability	Our Integration, Business Rule, and Workflow platform technology	Design Thinking approach to Persona and Process-based low cognitive load UI/UX (Composable User Interface and Experience)	Interoperability aligned with the OIIE and ISO 18101 DirigerHUB has direct connectivity to the Peppol e-Delivery Network for sending and receiving of PEPPOL documents.	Multi-system synthesis in real-time with full audit and error recycle capabilities	Centralised security and User Profile controls (Delegations or Authority) that standardise across all systems-of-systems capability	Composable Customer-specific UI/UX configuration capability so that there are 'No more Gaps' in solution deployment and reduced Customer Technical Debt.
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WHAT IS THE VALUE OF **Diriger** HUB?

Transparency & Trust

Standardisation & Simplification

Process Based Workflows

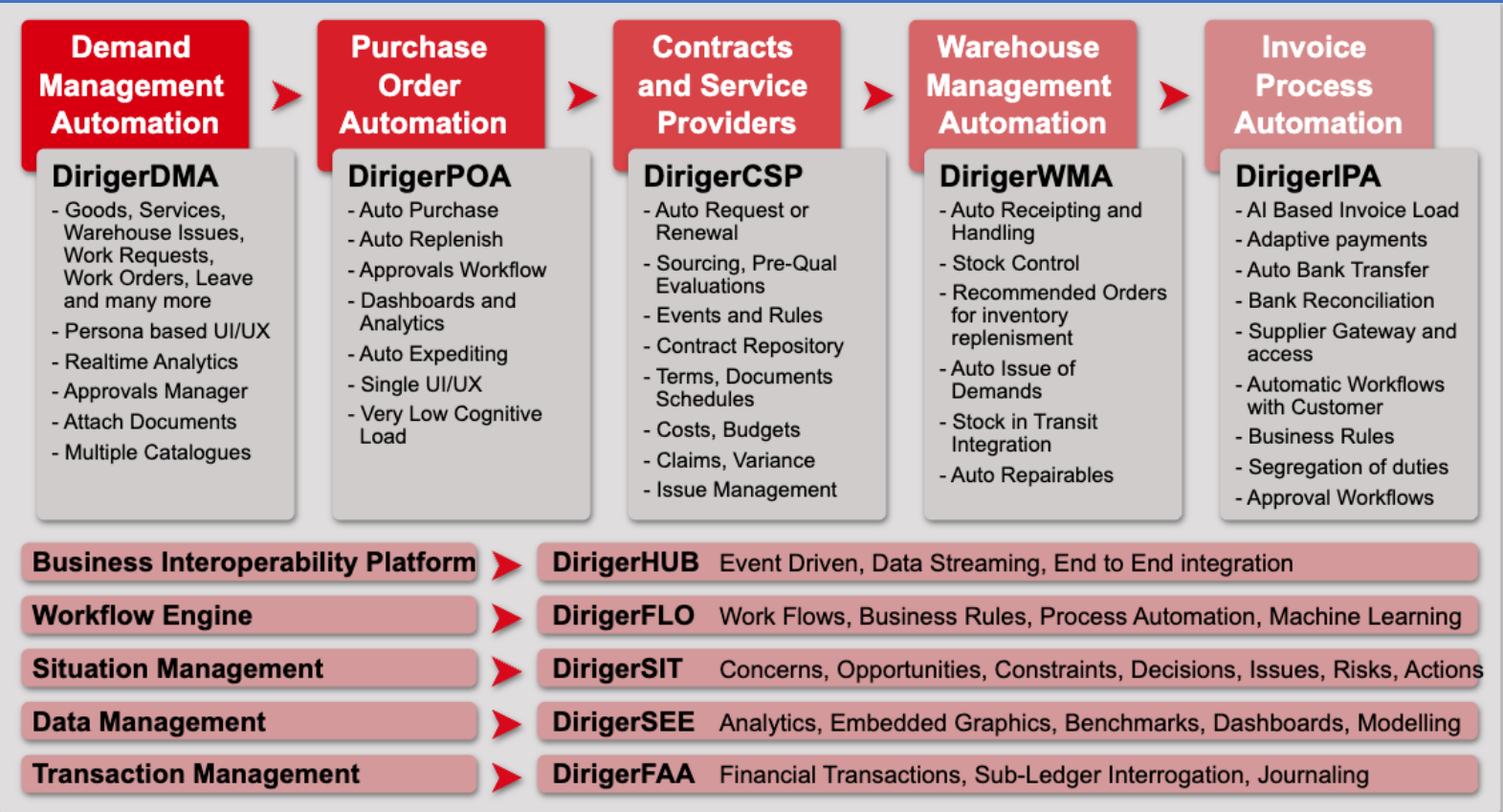
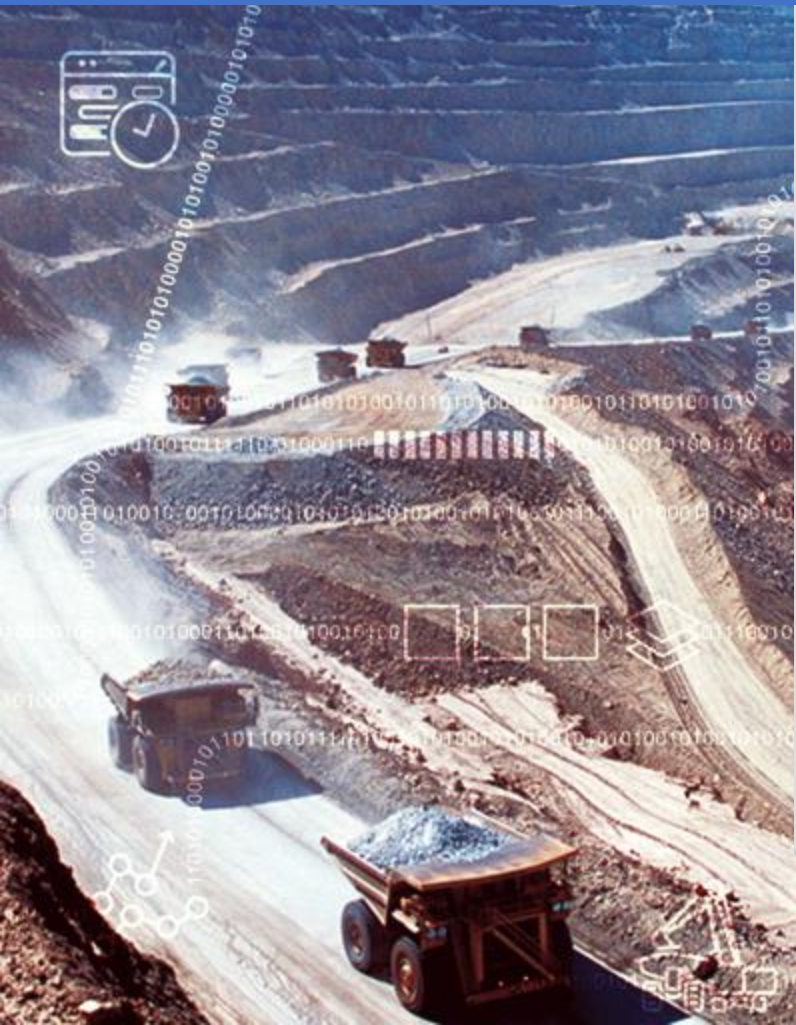
Master Data Management

Scalable & Flexible

Agility

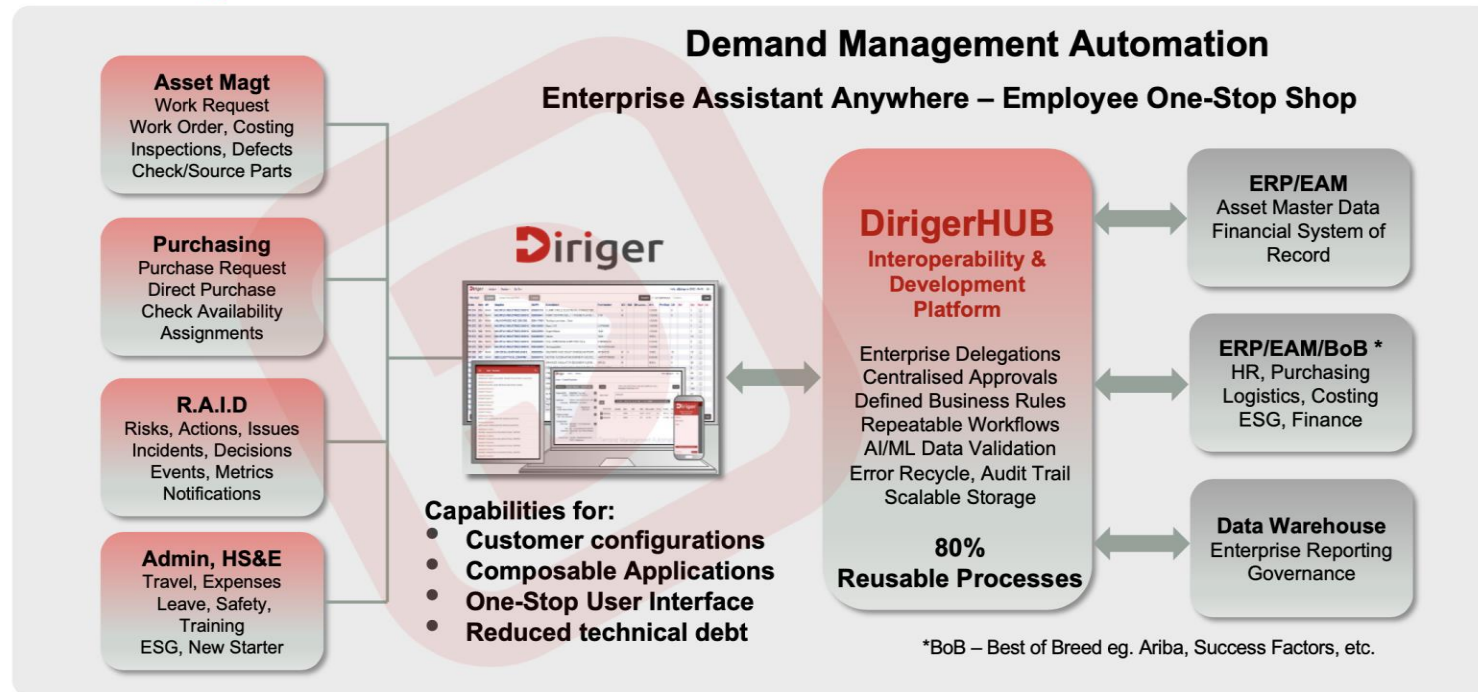
Seamless Integration to ERP

Supply Chain Management



Demand Management Automation

DirigerDMA: Total Enterprise Assistant Capabilities

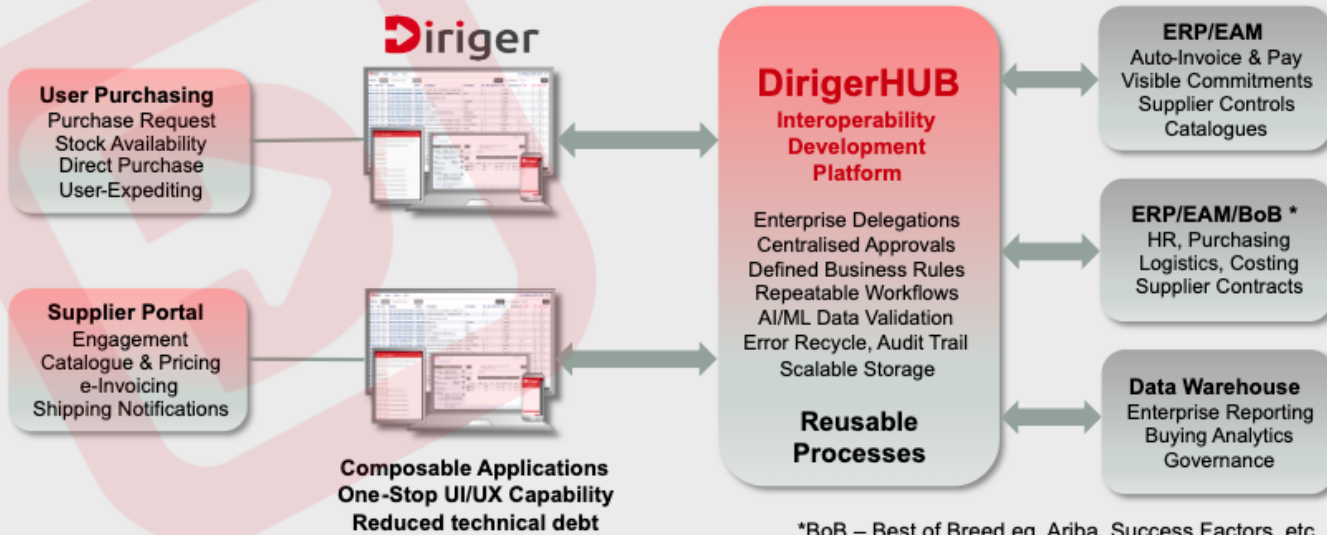


DirigerDMA provides

- ✓ Personalised information that makes it EASY for Users; Graphical User-based filters and tables to provide fast, easy access to the right data (agile deployment)
- ✓ Provides information on any Demand Request to Users in the field
- ✓ Procedural foundation processes with extremely low training burden (agile and intuitive usage and adoption)
- ✓ Attachment of documents to a Request for routing to Approvers, Planners and Purchasing Officers
- ✓ Supports standard corporate business rules and automation of Approvals
- ✓ Simplified analytics making data dissemination easier, faster and relevant
- ✓ Reduces data collection activity; more Relevant and Accurate data
- ✓ Defaults User costing and access details for *My Requisitions*
- ✓ Rapidly search data using a *Google-like* User interface
- ✓ Deliver succinct information to a single screen
- ✓ Reduced cognitive load through simple and intuitive design
- ✓ DirigerHUB has direct connectivity to the Peppol eDelivery Network for sending and receiving of PEPPOL documents.

Purchase Order Automation

Automate High Volume / Low-Risk / Low-Cost Purchases
The 80/20 Rule at Work for Improved Financial Controls & Lower Cost



Our **DirigerPOA** solution has been designed to automate the business processes that relate to Purchasing and Stock Replenishment

The benefits and expected ROI of **DirigerPOA** are

Through the use of a configurable Business Rule and Work Flow Engines creates an acceleration of the standard *Feature and Function* capabilities available in most ERP systems by more than 70%

Reduction in expediting; based on improved accuracy in defining lead times and delivery

Visibility of all historical (including cancelled/deleted) purchases to improve material management

Precursor to introducing AI into the procurement function; which is not possible without *clean* data

Fine grained control over thresholds for quoting and contracts

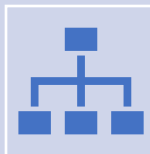
Significant reduction in data entry/clerical type activities

When used with DirigerDMA; it provides an even greater impact

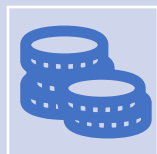
Realtime dynamic business KPI's and Benchmarks



Diriger Purchase Order Automation and its Benefits



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When used with DirigerDMA; it provides an even greater impact

Realtime dynamic business KPI's and Benchmarks



DirigerPOA provides



Personalised information (agile deployment)

Procedure-based interaction (agile adoption)

Simplifies analytics

DirigerIPA is compatible with OASIS UBL and Peppol Documents (e-Invoicing)

Rapidly search data using a *Google-like* capability

Deliver succinct information to a single screen

Support standard corporate business rules

Procedural based processes (agile adoption)

Purchase Order Creation

EXAMPLE

Warehouse

Supplier Catalogue

Direct Purchase

Requested By

0000000097 - Paul Walk

Position

T22530 - ELECTRICIAN HV

Authoriser

T22510 - SUPERVISOR TEST LAB

Employees

0000000098 - Owen Black

Priority

NORM - Normal Priority

Required by

15/07/2018

Delivery Location

0002 - Main Warehouse

Costing Details

Work Order

00004290 - 'A' Class Mechanical Inspection

Task

001 - 'A' Class Mechanical Inspection

Equipment

100-G-270B - Gas Turbine Generator No2

Account Code

2125430 - TRANSMISSION MTCE SOUTH - Maintenance

Create

Please check that the Stock Codes and Quantities are correct

Requisition Total Value 56000

Cancel

Stock Code

turbine set

Add

TS-785A - 000003186 - BLADE SET, STEAM TURBINE 4TH STAGE BLADING

Stock Code	Quantity	Value	SOH	UOM	Bin Location	Prt Iss	Part No	Total Value
000000464	1	20000	1	EACH	AC1101	No	SWT-2.3	20000
000003186	1	36000	1	SET	AC1100	No	TS-785A	36000

WYRD GLOBAL

EXPERIENCE MATTERS

Diriger

Invoice Automation

Diriger IPA

Invoice Exception

Document ID (0000000034)

Invoice Type: 2 - Service
District: 0002 WORLD WIDE CORPORATION
Supplier: 000064 DRrEW
Handling Code
Supplier Types: SC Sub-Contractor
Employee: Not an employee payment
Market Sectors
ABN: 22333444555
Invoice ID: 12302
Voucher Number: 00000034
Invoice Date: 2019-07-01
Invoice Amount
Tax Invoice: Yes
GST Amount
Tax Code: GT GST Taxable
Authoriser
Accountant
Purchase Order: PO1680

Invoice Items

Item	PO Item	POI Type	PO Qty	Inv Price	PO Price	Inv Price	Value	Remain	Part Number	De
There is no data to display										

Business Rules exception control Intervention allows User to clarify data or allows the process to continue unabated

DRrEW
ABN: 22 333 444 555
128 Charlotte Street
Brisbane Qld 4000
Australia
Phone: 07 3333 4444
Email: ir@drrew.com.au

World Wide Corporation
ABN: 29 638 987 686
accounts@wvc.com
PO BOX 1
Brisbane Qld 4000

TAX INVOICE
Invoice Number: 12302
Invoice Date: 2019-07-01
Payment Terms: 7 Days
Currency: AUD

Qty	Description	Rate	Value	GST	Item Total
1	Consulting services Bis Consulting Project Purchase Order: PO1680	10,000	10,000.00	1,000.00	11,000.00
Totals			10,000.00	1,000.00	11,000.00

Direct Deposit:
Bank: ANZ Bank
Branch: Queen Street Brisbane
Name: Dr-REW
BSB: 204065
Account Number: 333344445

DirigerIPA provides

A target of greater than 95% invoice process automation
Minimal data entry; documents read and loaded from Supplier email on receipt

Workflows and Business Rules captured and applied automatically through our Workflow Engine

Dashboards to monitor Exceptions, Non Order Invoices, Mismatches, Controls

Capability to read and load invoice data without template configurations

Classifies and manages all related invoice related documents

Governed manual intervention and controls of exceptions

Embedded analytics and visualisation tools

Procedural based processes with extremely low training burden and cognitive load (agile adoption)

Simplify analytics making data dissemination easier, faster and relevant

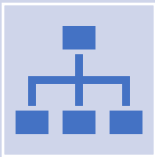
Reduce data collection activity; more Relevant and Accurate

Rapidly search data using a *Google-like* User interface

Deliver succinct information to a single screen



Diriger Invoice Automation and its Benefits



DirigerIPA Solution has been designed to automate the business processes that relate to Accounts Payable within an organisation. DirigerIPA uses our configurable Workflow Engine to capture business rules and Smart *Persona-based* screens to accelerate capability that is an *Order of Magnitude* superior to any ERP system. The benefits and expected ROI of DirigerIPA are:



Order-of-Magnitude reduction in invoice processing time
Significantly improves Service Levels and Authorisation efficiencies
Doesn't require Supplier Invoice templates for AI invoice loading
Machine Learning technology

Constant visualisation of all invoice transaction states and recommended actions
Manages and classifies documents that support invoice processes
Locates and notifies of settlement discounts
Out-of-the-Box integration to ERP's and other internal or external systems
Dashboard of real time dynamic business KPI's



Process Overview and Capability



A target of greater than 95% invoice process automation
Minimal data entry; documents read and loaded from Supplier email on receipt or via the Peppoi Framework.
Workflows and Business Rules captured and applied automatically through our Workflow Engine
Dashboards for Exceptions, Non Order Invoices, Mismatches

Capability to read and load invoice data without template configurations
Classifies and manages all related invoice related documents
Governed manual intervention and controls of exceptions
Embedded analytics and visualisation tools
Procedural based processes with extremely low training burden and agile adoption

Customer Supplier Relationship

Diriger Action Review Admin Diriger Customer and Supplier Engagement Hello, Greg Towne 0002

Action > Supplier

000052

ABC Hardware Supplies

There are pending changes need to be authorised

Legal Name ABCHS TA ABC
HARDWARE SUPPLIERS

Supplier Status 3

Country Code US

Primary Email

Christmas Closure Start

Christmas Closure End

Include Freight On
Discount Calculation ✕

Separate Cheque Per
Company ✓

Linked Supplier

Linked Customer

Pay Centre

Currency Type USD

Mnemonic
ABC, HARDWARE

Purchase Order Address

Line 1	920 Steel Road New
Line 2	Northgate
Line 3	
Post Code	93521
State	CA
Contact Name	Norman Wheeler
Phone	111 222 3333
Fax	1234
Email	norman.wheeler@abchs.com

Payments Address

Line 1	920 Steel Road
Line 2	Northgate
Line 3	
Post Code	93521
State	CA
Contact Name	Cathy Wheeler
Phone	111 222 4444
Fax	1234
Email	cathy.wheeler@abchs.com

Return Address

Line 1	920 Steel Road
Line 2	Northgate
Line 3	
Post Code	93521
State	CA
Contact Name	Norman Wheeler
Phone	111 222 3333
Fax	1234
Email	norman.wheeler@abchs.com

Company Setup

0002

Created On	2005-07-08 13:26:55
Account	123456789
Status	Active
Freight	FI
ABN	123 456 789
Orders Allowed	✓
Payments Allowed	✓
Primary E-Mail	
Delivery Location	0002 Main Warehouse
Supplier Types	IM Importer RT Retailer WH Wholesaler
Market Sector Types	

Company Bank Details

Bank Account Name	ABCHS
Bank Account Number	1234567870
Branch Code	064000020

DirigerCSE provides

A target of greater than 98% Customer and Supplier data validity

Minimal data entry - documents and data updated and validated on-line

Business Rules and Workflow engines to govern interventions and approvals

Capability to read, load and classify documents without template configurations

Dashboards to monitor and Govern Exceptions and Controls

Embedded analytics and visualisation tools



Our DirigerCSE solution has been designed to optimise collaboration between the business processes that relate to Customer and Supplier. DirigerCSE uses a configurable Business Rules Engine, customisable Work-Flows, and Smart Persona-based screens to make available capability that is an *Order of Magnitude* superior to ERP system processing

Order-of-Magnitude reduction in engagement and work-flow processing time
Significantly improves internal Service Levels and Authorisation efficiencies
Integrates seamlessly across Diriger and ERP Supply Chain processes
Manages and classifies a multitude of documents that support related processes
Locates and notifies of expiry dates and other commercial obligations
Effectively improves Customer and Supplier relationships
Reduces the time-impact of Relationship Engagements



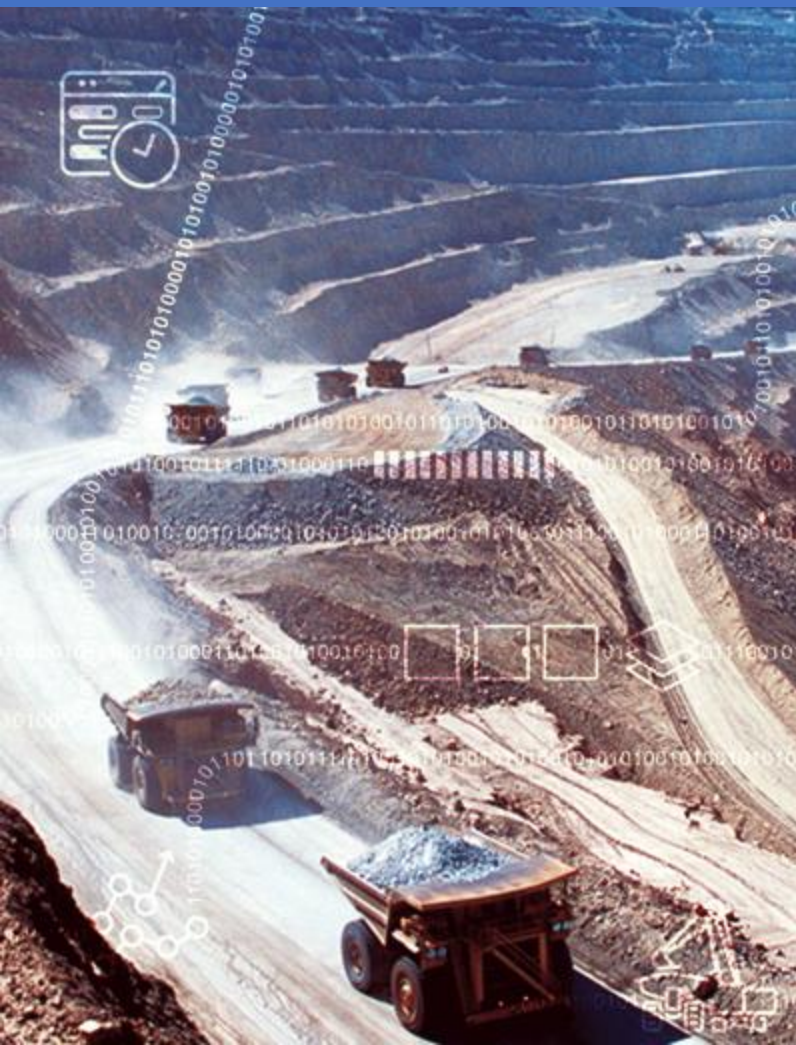
Process Overview and Capability



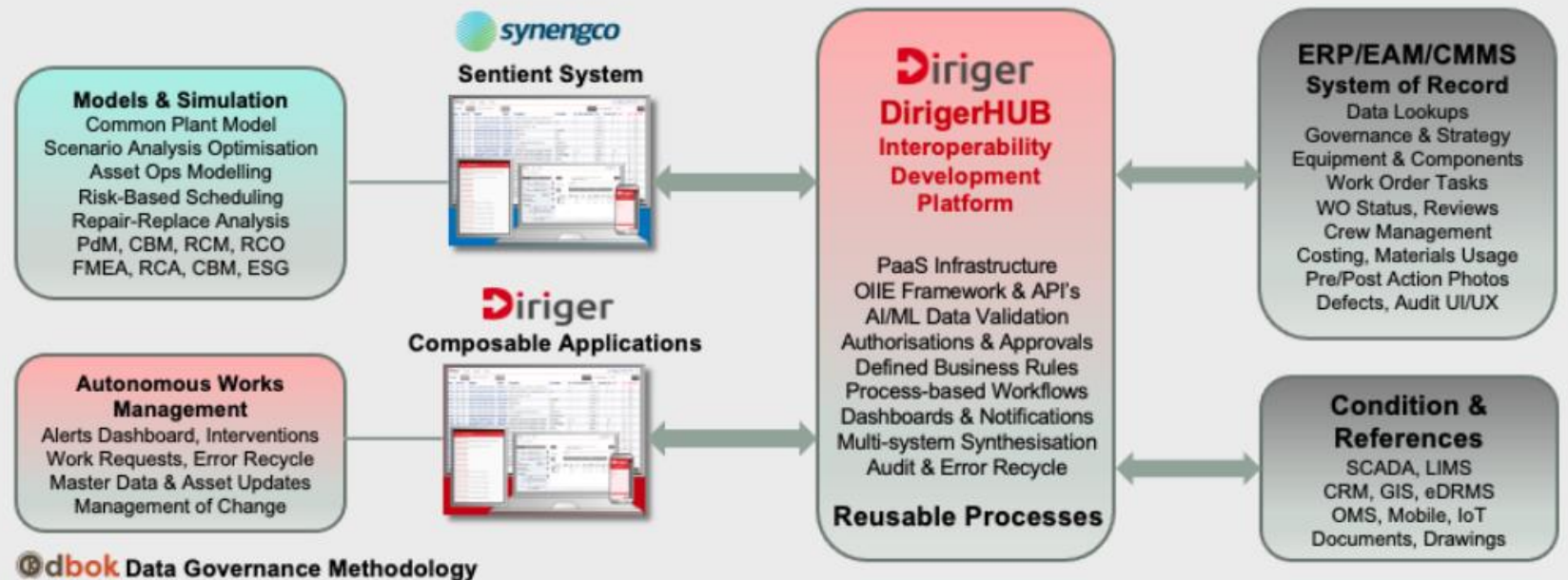
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Asset Management

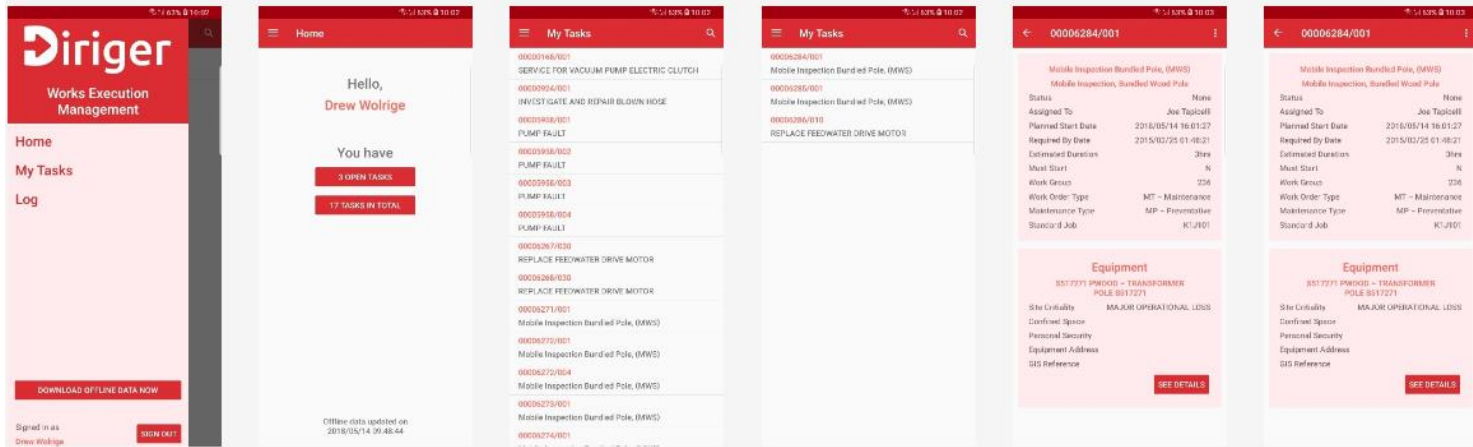


Asset Performance Management (APM) Capabilities in an Interoperable System of Systems



Work Execution with Mobility

MyWork Mobile



DirigerWEM and MyWork provides

Planners work-bench to speed Work Order management (schedule, action, complete, close)

Google like search for Planner's and Manager's workbench by Work Order, Location, Asset, Crew, Activity, Maintenance Type, Standard Job

Multi-Technician execution of geographically dispersed tasks in sequential order e.g. Speeds up isolations and the like

Embedded link with DirigerHSE for real-time safety and hazard controls (SLAMs, Permits etc.)

On-the-fly Asset and attribute updates (update nameplates and other relevant information in the field)

Real-time mobility; running a paperless operation; faster, better quality

UI requires less cognitive load and lower training burden

Real-time resolution of On-Hold or Suspend status


Automated business rules for Work Order close


Full off-line mode with MyWork

Mobile apps & desk top UI are developed using PWA (progressive web app) technology that is transportable to any device platform (Apple, Google, Windows) = Single point of development, maintenance & support.

Work Order Creation

EXAMPLE

 Action ▾ Review ▾ Go To ▾

Hello, Drew Wolrige (District: 0002) 

Work Orders

☐ Inactive

Filter by standard job

Filter by equipment

0002 ▾

Search...

Clear

New Work Order

New Conveyor Work Order

ID	Description	WO Type	Maint Type	St Job	Equipment	Raised ▾	Required By
00006279	Agitator failure reported by 800xA	Maintenance	Reactive	000047	R12AGIT	2013/11/18 19:58:23	
00006278	Inspect preheater due to 800xA ala...	Maintenance	Reactive	000038	PH1112	2013/11/18 19:57:38	
00006273	Mobile Inspection Bundled Pole, (M...	Maintenance	Preventative	K1J101	S517271 P...	2013/09/27 03:13:17	
00006272	Mobile Inspection Bundled Pole, (M...	Maintenance	Preventative	K1J102	S517271 P...	2013/09/27 03:06:34	
00006271	Mobile Inspection Bundled Pole, (M...	Maintenance	Preventative	K1J101	S517271 P...	2013/09/27 03:04:59	
00006269	Obsolete Materials from the Wareh...	Maintenance	Corrective			2013/08/23 21:33:21	
AA44	install engine to truck	Maintenance	Corrective		9SZ43168	2012/12/12 22:41:32	
AA43	install transmission to truck	Maintenance	Corrective		AL135005	2012/12/12 22:39:00	
AA41	install transmission to truck	Maintenance	Corrective		AL135002	2012/12/12 22:35:08	
AA39	Install Transmission to truck	Maintenance	Corrective		AL135001	2012/12/12 22:29:18	
00006268	REPLACE FEEDWATER DRIVE M...	Maintenance	Reactive	MOTORF	DWP300	2012/09/13 12:25:16	2012/09/15 12:25:16
00006264	Leaking seal	Maintenance	Reactive		DWP300	2012/01/17 22:06:45	
00006263	Leaking seal	Maintenance	Reactive		DWP300	2012/01/16 00:45:13	
00006260	250 CYCLE OVERHAUL	Maintenance	Preventative			2011/03/10 10:49:33	2011/03/12 10:49:33
00006259	YEARLY INSPECTION	Maintenance	Preventative			2011/02/11 14:02:52	2011/02/13 14:02:52
00006257	Road Inspection	Maintenance	Preventative	NCCRI	GYMP01	2010/07/22 14:49:35	2010/10/20 14:49:35

← 4 of 9 →

52 - 68 of 142 items

Go to 'page...

Go

Sentient System

Sentient System is a decision support and real-time optimisation platform for asset-intensive operations. It uses a self-learning digital twin of a process to provide for model-based decisions. The key to the technology is to automatically maintain alignment between the physical plant and the digital representation of the plant. The system monitors the fundamental changes in performance and asset consumption, continuously calibrates the digital twin by sophisticated machine learning and uses this self-calibrated digital simulation to provide:

- Detailed asset health and performance at a component level
- Precise and quantified system impact from changes to asset health and performance
- Predict future behaviour based on historical behaviour changes
- Early warning when the expected behaviour does not align with the predicted behaviour
- Real-time optimisation by simulation and manipulating the digital representation of the plant to improve operation from a production and/or asset consumption perspective.
- Once optimised in the digital world, execute the changes to the real-plant and ensure the actual change aligns with the expected improvement.

Sentient System platform is primarily a whole-of-system and whole-of-life optimisation of asset-intensive operations.

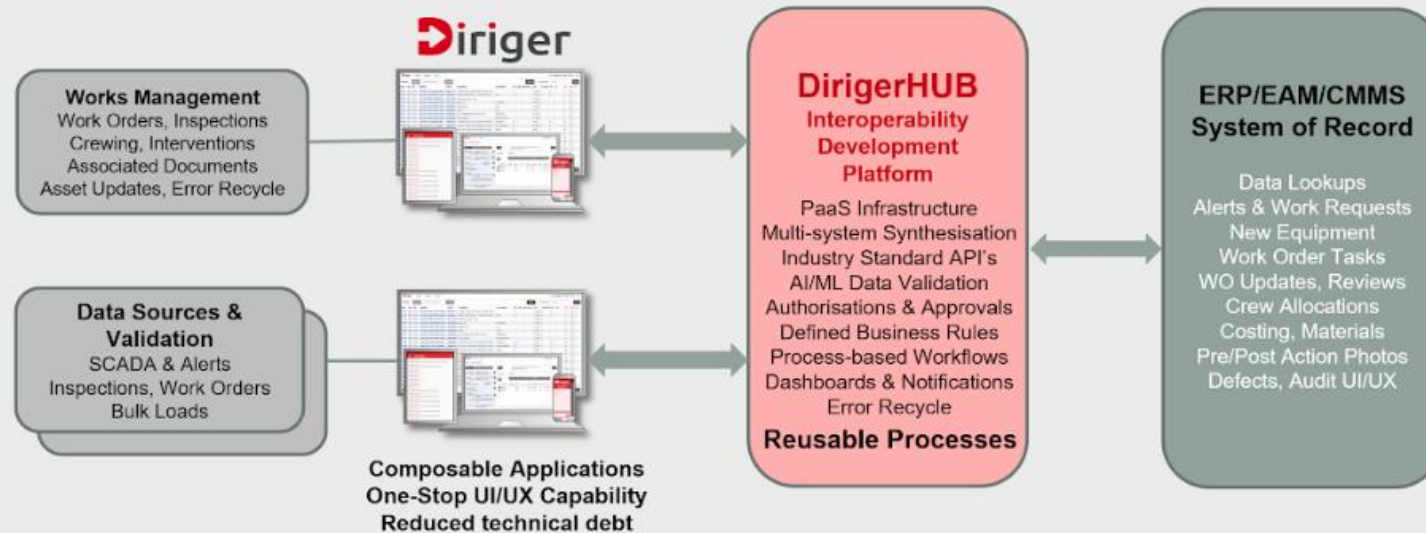
- Library of Assets with self-learning algorithms and failure modes
- Advanced pattern recognition
- Comprehensive fundamental modelling capabilities in mass, energy and value transfer and flow, asset consumption, and asset damage.
- Comprehensive empirical modelling and machine learning capabilities.
- Comprehensive predictive maintenance capabilities
- Interpretive analysis of condition monitoring data
- Data structures to support explainable AI
- Extensible data analysis capabilities
- Extensible data visualisation capabilities

Condition Monitoring

Data Collection & Validation for Asset Condition Monitoring

Interoperable System of Systems in a Secure Data Fabric

Diriger



Predictive analytics:

The industry is developing capability in using this data to analyse patterns, identify value drivers, and predict failure to greater degrees of certainty than before. This can lead to decreased maintenance costs; reduced business-halting failures in critical equipment; and greater asset lifespan.

Objective data analysis:

To achieve true predictive analytics, we must objectively understand the actual lead indicators of failure. This often requires a 'step-back' to understand equipment and processes, rather than relying on experience and gut-feel.

Data Management



Diriger

Data Sources & Change Records

Bulk Loads
Other ESB
SCADA
Documents
Configurable UI/UX

System of Record Eg. ERP/EAM

Master Data
Approvals Manager
Configurable UI/UX

Scalable Cloud Storage Virtual Master

MOC
Manager

Rules &
Workflow
Engine

Access &
Security

Watcher &
Messaging

DirigerHUB

Transform
& OCR
Engine

Apps Dev
UI/UX

Data
Monitoring
& Events

Analytics &
Reports

API Manager & Synthesiser Adaptor & Schema Library

Affiliate System Eg. GIS, Mobile

Lookup Data
Synthesised Data

Affiliate System Eg. SCADA

Lookup Data
Synthesised Data

Affiliate System Eg. Data Warehouse

Lookup Data
Synthesised Data

HUB Capabilities

User Interface and User Experience



Monitoring & Control Dashboard, Analytics, Business Application Services
Development & Collaboration Services, Configurable UI/UX

Security and Authentication

Authorisation Access, Data Security, Accountability, Cryptography, Auditing, Network Controls & Segregation
ISMS Controls & Protocols (ISO 27001)

Workflow and Business Rules Engines

AI & ML Driven Data & Process Orchestration Services, Scalable Cloud Data Storage & Virtual Master Data Management
Monitoring & Control Services: Error Recycle, Notifications, Alerts, Administration, Management of Change & Approvals

Cloud Integration

Multi-System API Management & Master Data Synthesis, Industry Standard Adaptors, Messaging
Infrastructure Optimisation, Transitions & Transformations, API connectivity anywhere / Other ESB

Workflow of any business process
(Including Management of Change)

Deployment to On-premise or Cloud
infrastructure

Single or multi-threaded, serial, parallel or
distributed deployments

Business data from multiple systems in
Real-Time and ensures it is VALID;
especially data we need for collaboration

A better foundation for our Data Insights
Value Chain - which is core to our business
imperatives

Real-time automation applications and data
visibility or synthesis models work
across multiple platforms, applications,
and structures

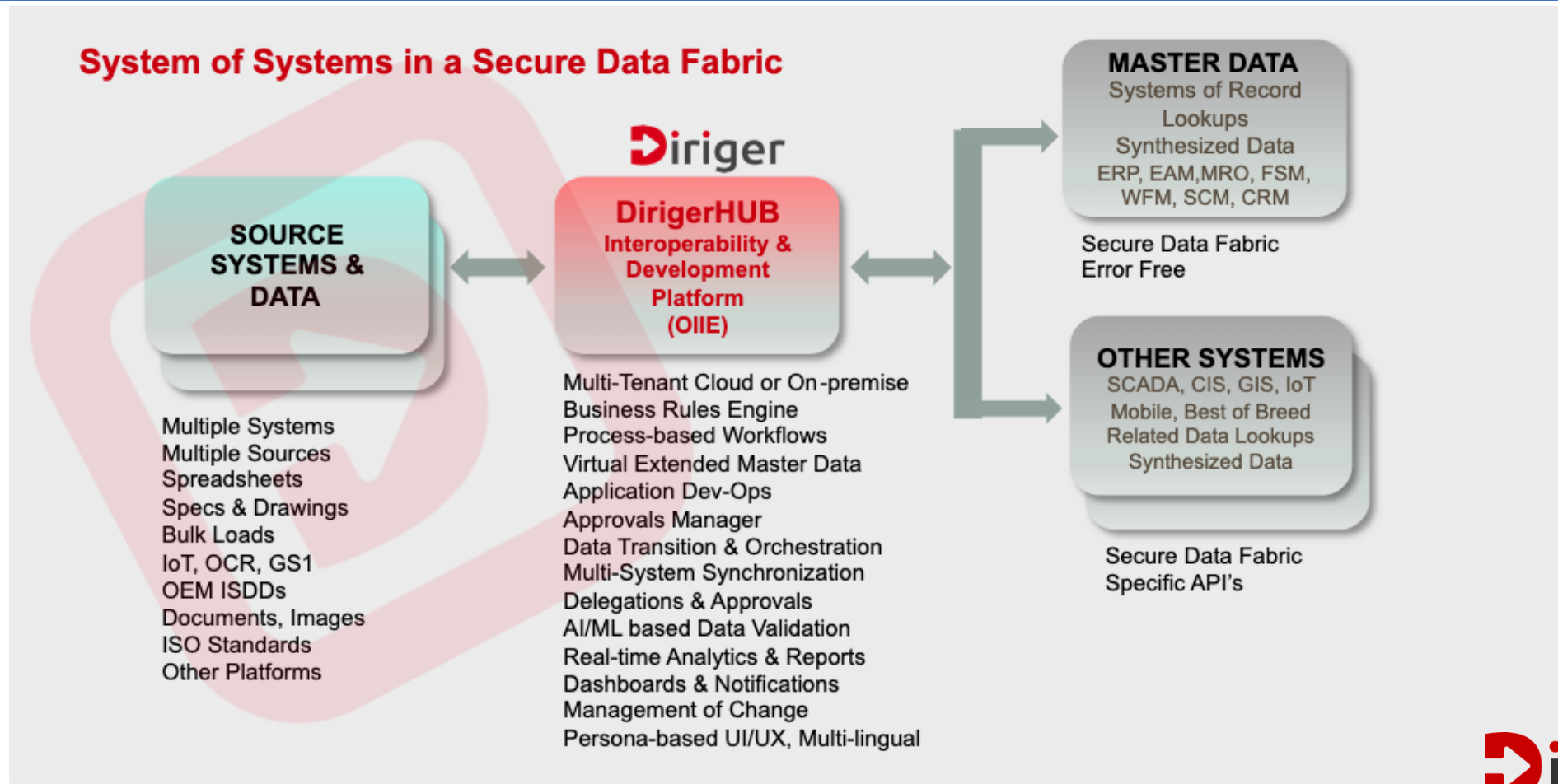
Connection to multiple systems e.g.,
multiple ERP's, specific Best-of-Breed
applications; allowing a single UI/UX and
subsequent low cognitive load for both
applications and Master Data Management

Middleware that knows about business
data requirements across multiple APIs
that are simple to implement (Utilises OIE
standard adaptors)

Assurance that transactions are completed
in accordance with prescribed security,
workflow and business rules whilst building
data accuracy

System of Systems

SECURE DATA



Application Of AI & ML

Broad use of Artificial Intelligence and Machine Learning

Image Recognition

- Most image and document inputs; Templates and Scripts are NOT required

Conversational Language

- Understanding Human Intent through Design Thinking
- User Interface and User Experience (UI/UX) and Interpretative Natural Language Interface e.g. Google-like

Goal Driven Systems

- Business Rules and Reinforcement Learning
- Workflow and Process Optimisation
- Interactive problem solving with Validation and Intervention

Predictive Analytics and Path Dependence

- Statistical Inference from data history; Maximum confidence
- Decision Support and process-based Judgment Heuristics

Patterns and Outliers

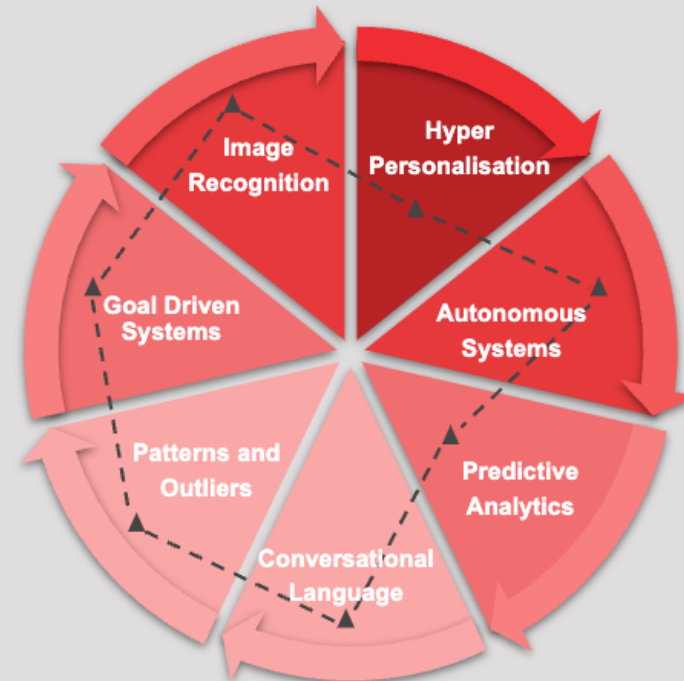
- Cognitive pattern learning or potential outliers; Data validation
- Risk detection and minimisation of mistakes
- Predictive text and alignment to expected data

Autonomous Systems

- Reducing the need for manual labour and repetition (prescribed practice)

Hyper Personalisation

- Treats people as individuals; User History and Trending



▲ Example - DirigerIPA (Invoice Process Automation)

Summary

