

**Quality.
Migrations.
Governance.**

Asset Intensive | Retail & Fashion
Data Driven Business Solutions

Take Costs out of the Business and Ensure Critical Parts Availability with MRO Supply Chain Optimization

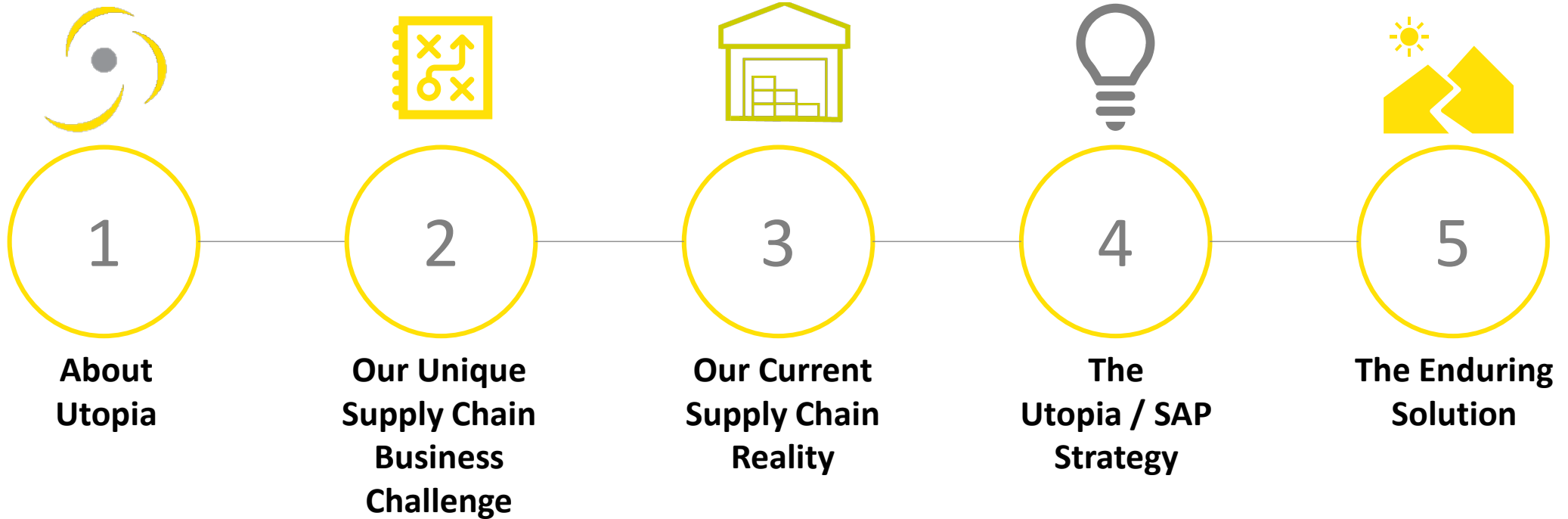
Mike Jordan
Vice President, EAM Practice

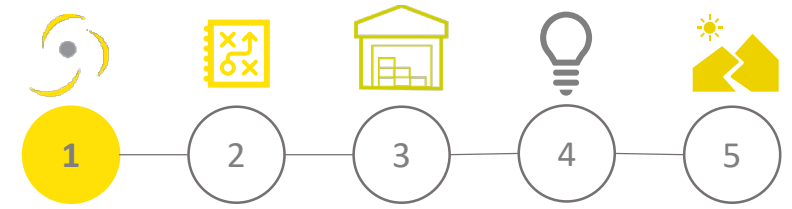
April 16, 2020

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Agenda





About **Utopia**

About Utopia...

No one understands data like we do!

History/Innovation/Growth

- Founded in 2003 and headquartered near Chicago
- Over 500 employees worldwide
- Largest R&D team focused on Master Data Governance in the World
- Exclusive providers of ML solutions for data quality

#1 referred partner by SAP for EIM Solutions

- Proprietary accelerators and templates support entire EIM portfolio from SAP

Exclusive partner for SAP MDG Solution Extensions

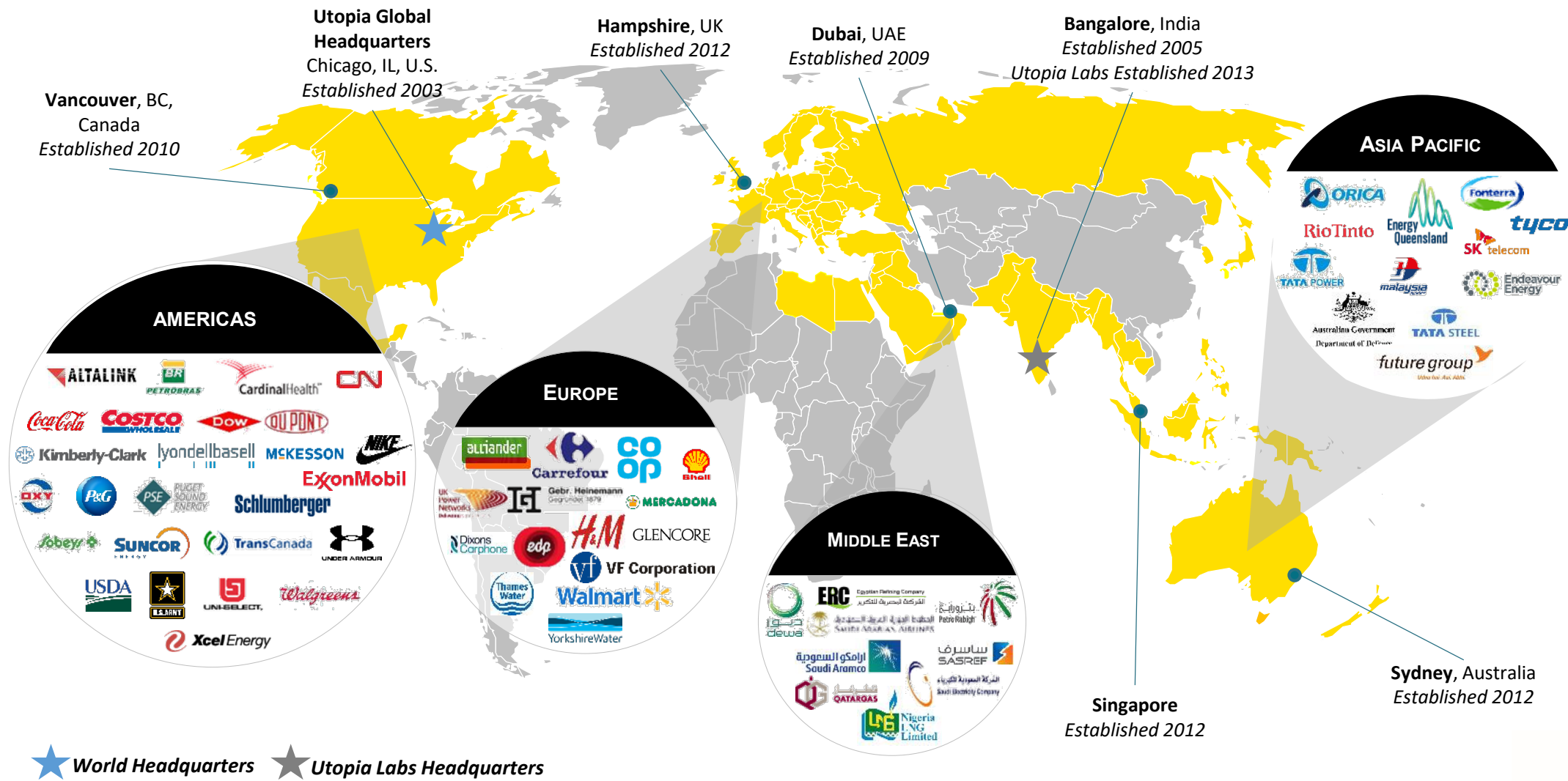
- SAP MDG for Enterprise Asset Management (MDG-EAM)
- SAP Asset Information Workbench (AIW)

Focus on data supporting Digital Transformation & the Intelligent Enterprise

- Data Strategy: Roadmap for People, Process and Technology
- Data Quality: Data Profiling, Data Cleansing, Enrichment
- Data Migration: SAP S/4HANA Migrations, Data Services
- Data Governance: MDG core domains and Utopia developed solutions



Utopia's Global Reach



★ World Headquarters ★ Utopia Labs Headquarters

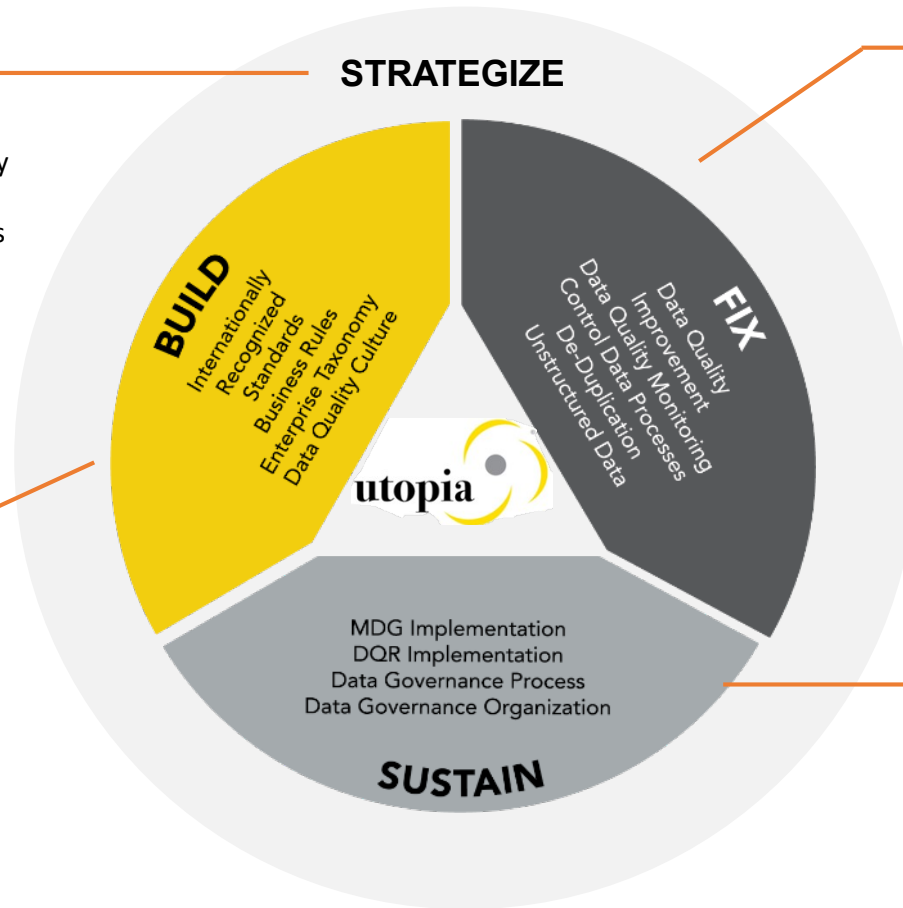
What We Do

Strategic Consulting Services

- **Strategic Data Assessment:** crafting a data strategy to meet organizational goals
- **Strategic Value Mapping:** Establishing the business case for master data quality based upon industry benchmarks
- **Change Enablement:** specialize in change enablement for data transformation programs
- **Data Governance Operating Model:** Plan and operationalize Data Governance

Master Data Standards

- **Establish master data hierarchy and taxonomy** based upon on industry standards – ISO14224 and UNSPSC
- **Standardize asset information sharing** based upon DFIHOS and SAP Asset Intelligence Network



STRATEGIZE

Data Migration, Transformation & Enrichment

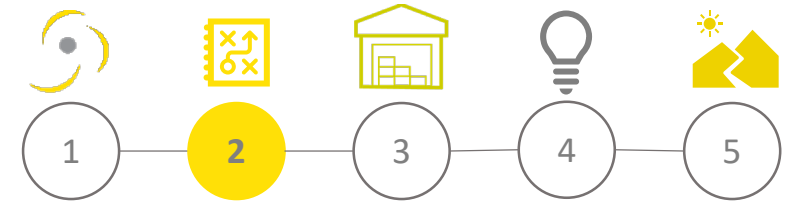
- **Program manage Data workstream** within technology transformation programs
- **Execute full migration CETLR lifecycle** – Cleanse, Extract, Transform, Load and Reconcile
- **Enhanced Machine Learning** expedites data enrichment
- **Utopia accelerators:**
 - 400+ migration templates
 - Industry leading practice cleansing rules
 - Data reference models

SAP SoLex Products

- **MDG EAM:** Governance engine and platform for EAM suite of master data objects, seamlessly integrated with SAP digital core
- **Asset Information Workbench(AIW):** a tool for mass processing across hierarchies of linked maintenance objects
- **Intelligent Data Capture and Control (IDCC):** Data capture using machine learning algorithms and OCR, seamlessly integrated with SAP IAM

Utopia Data Governance Accelerator (uDGA) Products

- **uxLoader:** Excel add-in that lets end users load mass change/load maintenance master data, seamlessly integrated with SAP MDG
- **Industry Based Business Rules:** 200+ ready-to-use business rules and workflows across data domains
- **uADRL:** provides operators with cleansed and accurate information on equipment manufacturers, models, characteristics and failure data compliant with ISO 14224
- **Integration Adaptors:** AIN connector, Hexagon, CMMS



Our **Unique Supply Chain** Business Challenge

The Concerns of Jim, the Plant Manager

- Maintaining the operational effectiveness of our production assets has never been more important.
- The availability of critical spare parts is an essential ingredient for keeping our assets running.
- In our current business climate, our traditional spare parts suppliers may not remain in business, or remain capable of providing essential MRO spares.





What worries Laura, the MRO Supply Chain Manager?

- What spare parts will we most likely need to insure uninterrupted operations?
- Do we have these spare parts on hand?

The Challenge for Paul, the Chief Procurement Officer

- If not here, do we have the needed spare part, or a functional equivalent, in a nearby facility?
- Where are in-region suppliers of my needed spare part, or a functional equivalent, if my local vendor is unable to deliver?





What troubles Anthony, the Chief Financial Officer

Where can we cut costs to survive a downturn without damaging our ability to produce?



Our **Current** MRO Supply Chain Reality

While good data can be your most strategic asset...

Bad Data can be Catastrophic!

**Data you don't trust
isn't data.**

SAP HANA Data Management Suite



56%

of CEOs are concerned
about the quality of
their data.



8%

of organizations have
reached
"transformational"
levels of maturity in
data and analytics.



3%

of company data meets a
minimum threshold for data
quality.

Sources

KPMG, 2017 Global CEO Outlook

Gartner, Survey Analysis: Traditional Approaches Dominate Data and Analytics Initiatives, Feb 5, 2018,

Harvard Business Review, Only 3% of Companies' Data Meets Basic Quality Standards, Sept 11, 2017

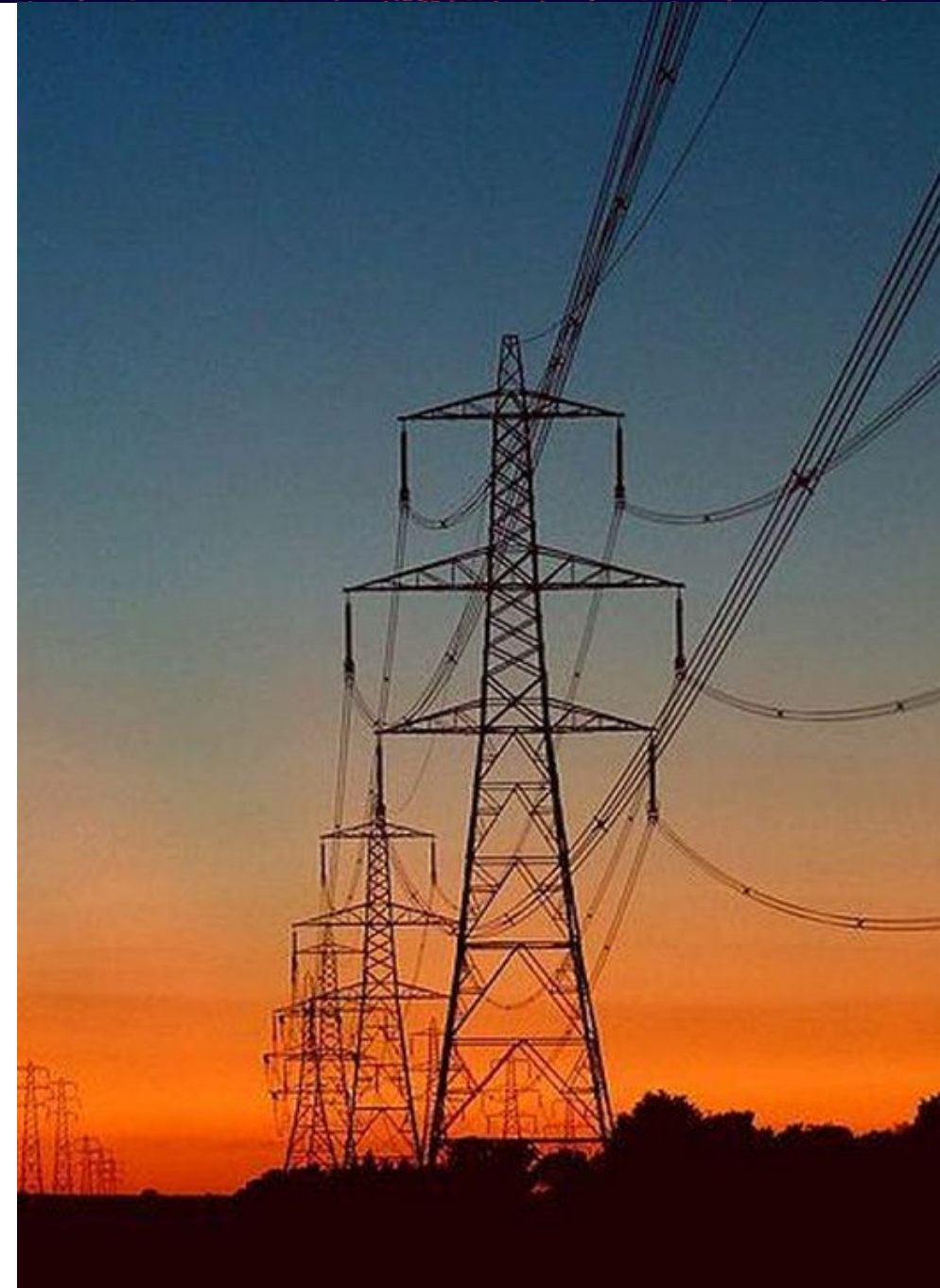
8% of equipment
records contain
make and model



4% of existing
equipment with
make and model
have an MRO bill
of material



10% of required
spare parts
available as a
material record

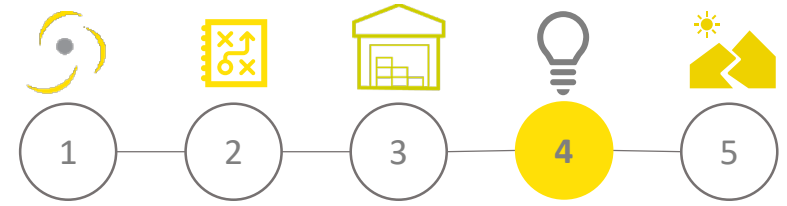


Stock Analysis Report

Material	Material description	BUn	Typ	Safet	Total	Tot.	AVG	DEM part no.	DEM	DEM name	DEM model	PDT
1000002	BEARING,BALL,25X52X15MM,6205/C3,SKF	PC	PD	3	3	3	2.54	6205-C3	SKF	BROOK HANSEN	AD100LA-4P1...	61
1001433	BEARING,BALL,25X52X15MM,6205/2ZC3,SKF	PC	PD	4	0	23	5.15	6205-2ZC3	SKF	HOLZHAUER	NTA85563	15
1008170	BEARING,BALL,25X52X15MM,6205/2RS1C3,SKF	EA	PD	6	6	3	9.13	6205-2RS1C3	SKF	NAT-OILWELL	8306DIT	13
1010498	BEARING,BALL,25X52X15MM,6205/2Z,SKF	PC	PD	4	4	30	4.67	6205-2Z	SKF	BROOK HANSEN	AD90LND	52
1011525	BEARING,BALL,25X52X15MM,6205/RS1,SKF	PC	PD	4	4	0	19.09	6205-RS1	SKF	BEST EQUIPM...	XL1.25	31
1121257	BEARING,BALL,25X52X15MM,6205-2RSH,SKF	EA	PD	1	1	0	5.49	6205-2RSH	SKF	SIEMENS PGI	D-6ZE1011	84
1121257	BEARING,BALL,25X52X15MM,6205/2C3,SKF	EA	PD	8	4	0	3.09	62052-C3	SKF			32
1121257	BEARING,BALL,25X52X15MM,6205,SKF	EA	PD	0	0	0	4.98	6205	SKF	ITALKRANE	2891-P	30

- Lack of consistently applied taxonomy and naming conventions on MRO spare parts, results in duplicate material records, incomplete material records, and unrecognized obsolete inventory.

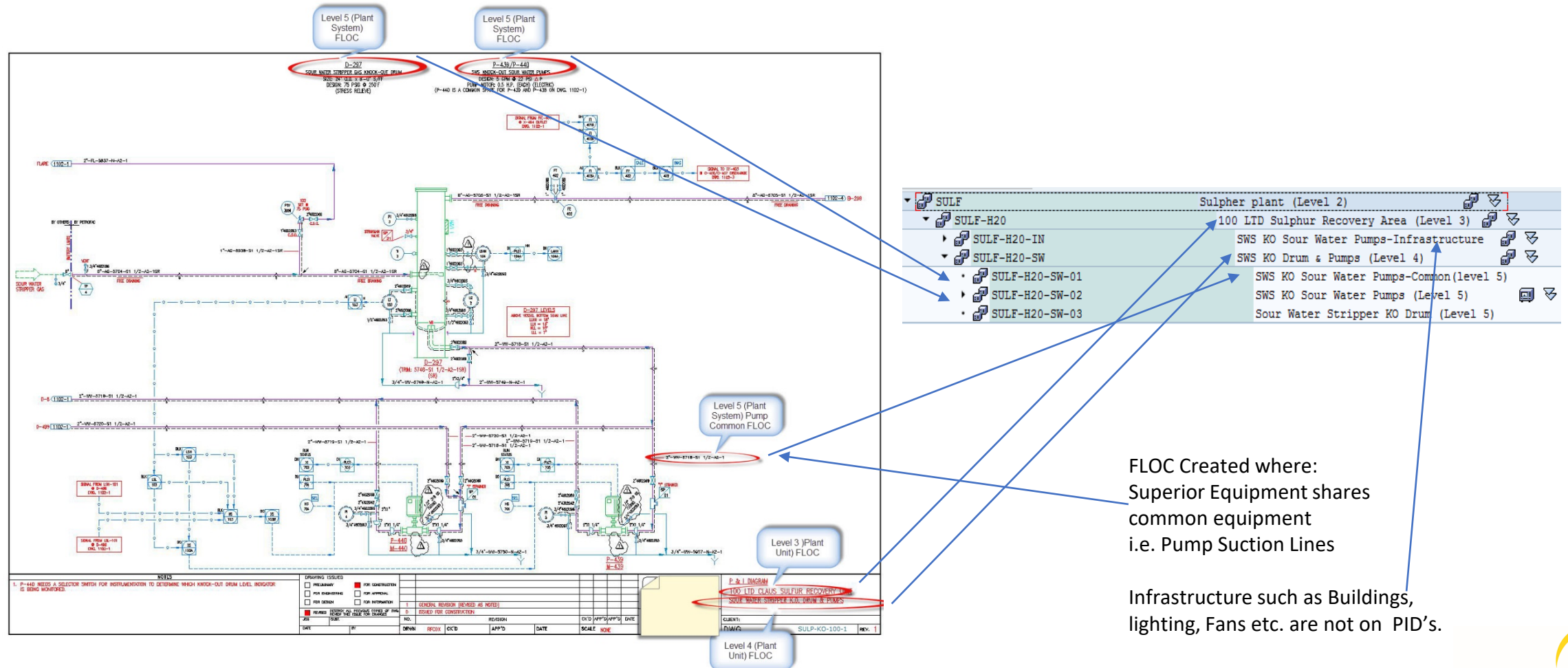
- Missing or incomplete bills of material for process-critical and safety-critical equipment has negative impact on maintenance productivity and asset availability.



The **Utopia/SAP** Strategy

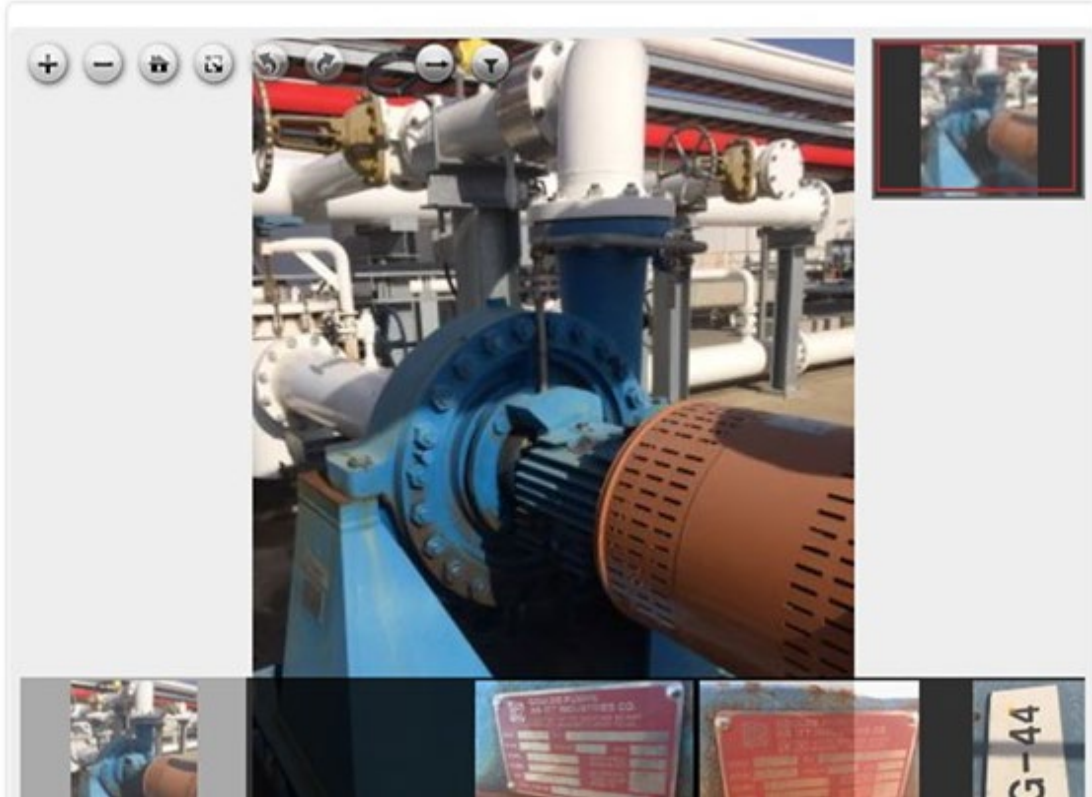
Data Enrichment Begins with the Most Trusted Information

Engineering Drawing take-off to ISO 14224-based Functional Location Creation



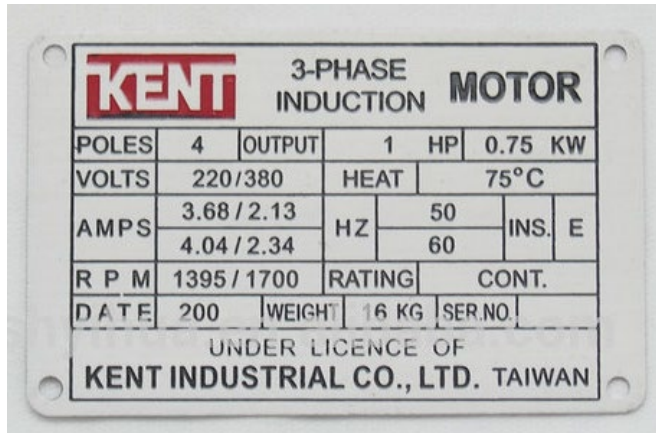
Data Enrichment Begins with the Most Trusted Information

Plant Walk-downs for Equipment and Material Field Data Collection

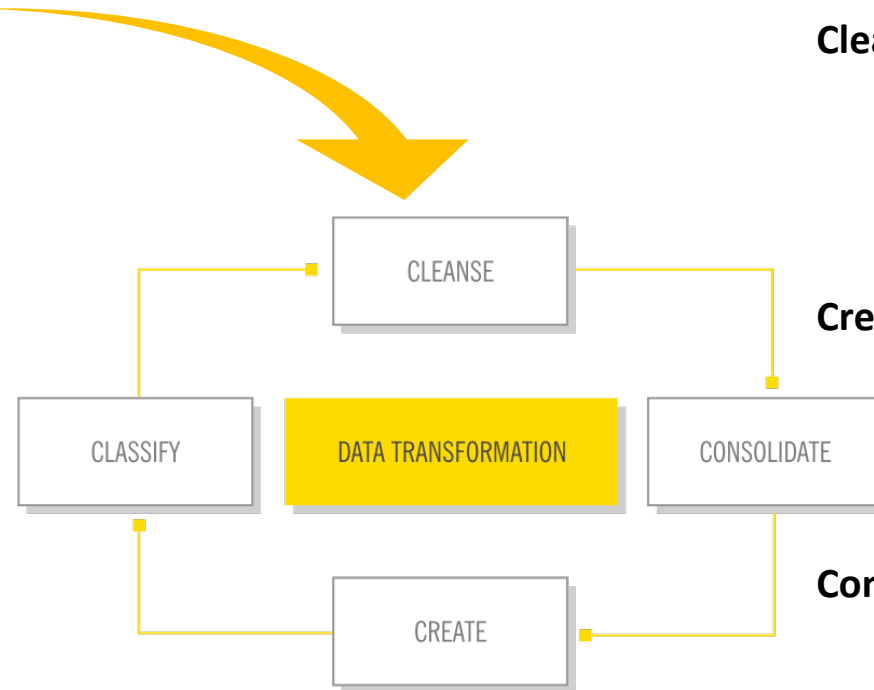


As-built Equipment Manufacturer/Model Information

Asset Master Data Enrichment via Utopia's 4Cs Methodology



Equipment 'brass tag' information collected from plant walkdowns, engineering documents or other systems of record



Cleanse

- NMA identification (Noun, Modifier, Attribute) or Equipment Class identification
- Parse data into appropriate attributes
- Normalize and standardize

Create (Enrich)

- Create and/or enrich attributes (databases, web scraping, catalogs, contact with data source)
- Physical verification (onsite "boots on the ground")

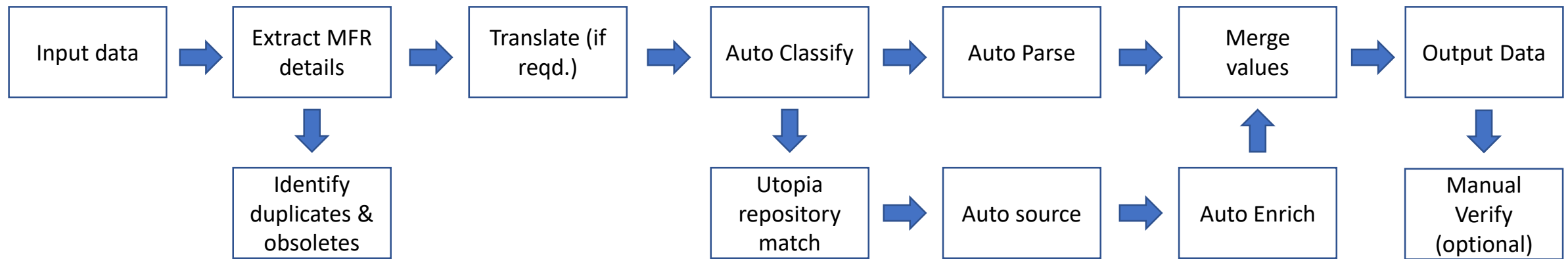
Consolidate (De-Dupe)

- De-duplicate data within a database, or among multiple databases
- Transfer history

Classify

- Industry standards (UNSPSC, PIDX, eCl@ss, eOTD)
- ISO14224 and Utopia Customized
- Customized smart numbering

Utopia Automated Master Data Enrichment Process



Manual cleansing

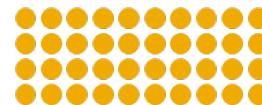
- Record by record, inspections
- Effort: #data records × #attributes

Expert/Rule-based

- Use expert knowledge to derive rules
- Effort: #attributes

Data mining-based

- Statistical, leveraging available data
- Effort: Much smaller than #attributes

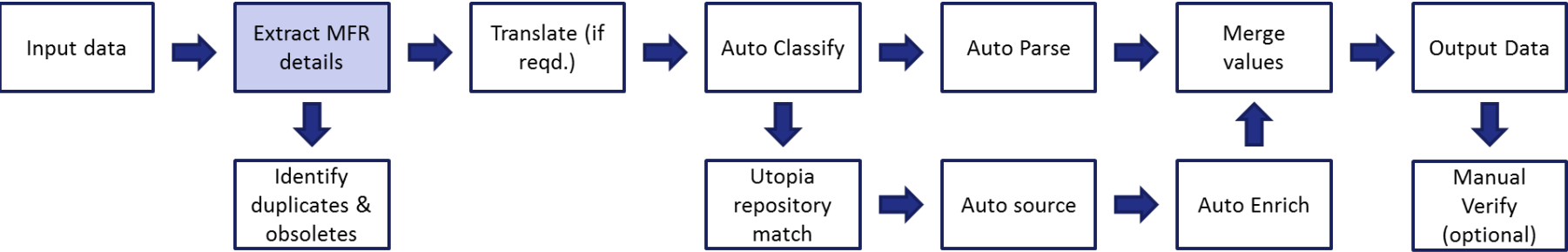


Effort

Computing
power

Intellectual
property

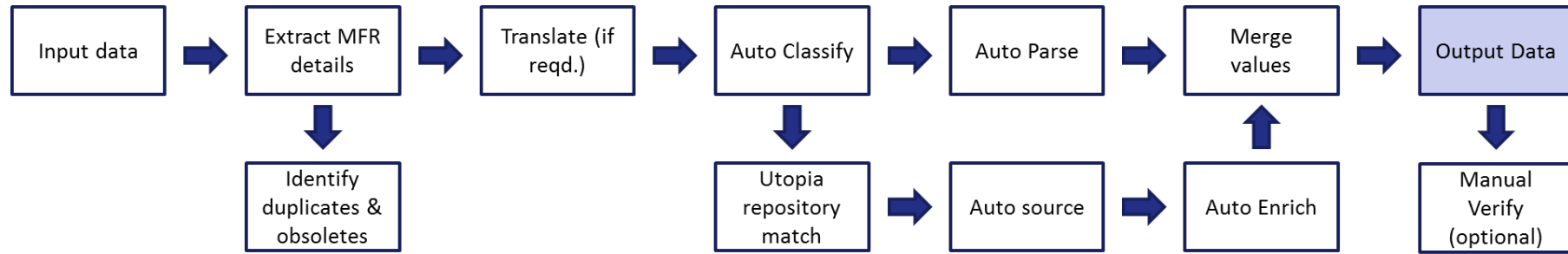
Extract Manufacturer & Part Number Details



MATERIAL	SHORT DESCRIPTION	LONG DESCRIPTION	MANUFACTURER	OEM PART NUMBER	STANDARDIZED_MANUFACTURER	STANDARDIZED_MANUFACTURER_PART NUMBER
769105	TCP INDICATOR, ALLOY, 80K YIELD	TCPINDICATOR,ALLOY,80KYIELDTCPIndicator,Alloy,80kyield,HalliburtonRTARef#101842125			HALLIBURTON	#101842125
791967	ASSY, SHOE, GUIDE, JOINT, 13-5/8"	ASSY, SHOE, GUIDE, JOINT, 13-5/8" ASSEMBLY, CASING, 13-5/8", 88.20 LB/FT, GRADE TN125HC, TSH WEDGE 523, PAL3/CTP3, RANGE 3, W/ GUIDE, SHOE, 13-5/8", MODEL L2020, GRADE Q-125, H523 BOX, 88.20 LB/FT, CEMENT NOSE W/5.00 TUBE, SPECIAL ID AND AFU BAR, WEATHERFORD PN L2020NLH523Q1 2A004			WEATHERFORD	L2020NLH523Q1
3034760	CASING,PRES DRILLED,7IN 23PSI,L 80	CASING,PRES DRILLED,7IN 23PSI,L 80 CASING,PRES DRILLED,7IN 23PSI,L 80,HYDRIL 563,PAL 1/CTP 2,HI-FLOW PRE- DRILLED LINER,PERFORATED 218-228 HOLES X 3/8IN DIAMETER PER FOOT FROM 3 FT FROM BOX END TO,2 FT FROM PIN END (5 ,000 FT OR +122 JOINTS),NOTE:ID SHOULD BE DE-BURRED. 3RD PARTY INSPECTOR TO VERIFY EBURRING PRIOR TO, SHIPMENT.			HYDRIL	563

Missing manufacturer name, part number and characteristic data is mined from long text description by **Utopia automated data enrichment environment**

Standardize & Generate Output Descriptions



Material	Short Description	Long Description	MANUFACTURER_NAME_1	MANUFACTURER_PART_NO_1	VENDOR_URL	SHORT_DESCRIPTION	LONG_DESCRIPTION	UNSPSC_CODE	UNSPSC_DESCRIPTION	CLASS	CHARACTERISTIC_NAME	CHARACTERISTIC_VALUE
1568957	VALVE,SOLENOID,1IN,NPT,2-WAY,SST	VALVE,SOLENOID,1IN,NPT,2-WAY,SST DIAPHRAGM OFFSET PILOT 2-WAY SOLENOID VALVE 1IN NPT NORMALLY CLOSED STAINLESS STEEL	PARKER	16F24C616 4AAFE05	https://www.hydradynellc.com/product/16f24c6164aa-fec05/2-way-internal-pilot-operated-normally-closed-stainless-steel	VALVE:SOL; 1 IN,2-WAY,NC,1 IN,NPT	VALVE:SOLENOID;NOMINAL SIZE:1 IN,CONFIGURATION: 2-WAY,NC,ORIFICE SIZE:1 IN,PORT CONNECTION:NPT,C OIL RATING:120 V AT 60 HZ,110 V AT 50 HZ,BODY MATERIAL:316 STAINLESS STEEL,ENCLOSURE:NEMA 7/9,PRESSURE RANGE:100 PSI FOR OIL,150 PSI FOR AIR/WATER,SOFTGOODS:BUNA-N SEAL,ADDITIONAL FEATURES:PILOT-OPERATED,OFFSET DIAPHRAGM	40141605	Solenoid valves	VALVE_SOLENOID	NOMINAL SIZE	1 IN
											CONFIGURATION	2-WAY,NC
											ORIFICE SIZE	1 IN
											PORT CONNECTION	NPT
											COIL RATING	120 V AT 60 HZ,110 V AT 50 HZ
											BODY MATERIAL	316 STAINLESS STEEL
											MATERIAL SPECIFICATION	
											ENCLOSURE	NEMA 7/9
											PRESSURE RANGE	100 PSI FOR OIL,150 PSI FOR AIR/WATER
											SOFTGOODS	BUNA-N SEAL
											CERTIFICATION/STANDARD	
											ADDITIONAL FEATURES	PILOT-OPERATED,OFFSET DIAPHRAGM

- Merged values from parsing & enrichment are standardized to create the final attribute values.
- Descriptions are then auto-generated based on target ERP rules e.g. SAP short description restricted to 40 chars, using abbreviations etc.

MRO Spares Data Transformation

Input Data	Cleansed Data	Cleansed, Standardized and Consolidated Data	Enriched Data
BALL BEARING 15x35x11	BALL BEARING, 15MM,35MM,11MM	BEARING,BALL, 15 MM,35 MM,11 MM	BEARING,BALL;DEEP GROOVE,15 MM ID,35 MM OD,11 MM W,6200 SERIES,1 ROW,1 SHIELD, STEEL,PRESSED CAGE,2 DEG MISALIGNMENT,8.06 KN DYNAMIC,3.75 KN STATIC
BALL BRG 15 X35 X11 MM	BALL BEARING, 15MM,35MM,11MM		
BALL BEARING Ø15X11X35 MM	BALL BEARING, 15MM,35MM,11MM		
15X11X35 BEARING BALL	15MM,35MM,11MM,BEARING BALL		
CARTRIDGE FUSE FAST ACTING 600 VAC 30 A	CARTRIDGE FUSE, FAST ACTING, 600 VAC, 30 A	FUSE,CARTRIDGE, FAST ACTING,600 VAC,30 A	FUSE,CARTRIDGE;FAST ACTING,600 VAC,30 A,200 KA,END CAP,NICKEL PLATED BRASS,MELAMINE TUBE,CSA
CARTRIDGE FUSES FAST ACTING 600 VAC 30 AMPERE	CARTRIDGE FUSE, FAST ACTING, 600 VAC, 30 A		
FAST ACTING CARTRIDGE FUSES 600 VAC 30 AMP	FAST ACTING CARTRIDGE FUSE, 600 VAC, 30 A		
CARTRIDGE FUSES 600 VAC 30 AMPERE, FAST ACTING	CARTRIDGE FUSE, 600 VAC, 30 A, FAST ACTING		
45 DEG ELBOW PIPE ADTPTR	45 DEG, ELBOW, PIPE, ADAPTER	ELBOW,PIPE,ADAPTER,45 DEG,1-1/2 IN	ELBOW,PIPE;ADAPTER,45 DEG,1-1/2 IN,SCH 40,200 PSI,CARBON STEEL,BLACK OXIDE,ASTM A106,1-1/2 IN NPS X 1-1/2 IN NPS,1.94 IN CENTER TO END DISTANCE
1-1/2 INCH X 45 DEGREE PIPE ELBOW	1-1/2 IN, 45 DEG, PIPE, ELBOW		
pipe elbow 45° 1 1/2" n° 45	PIPE, ELBOW, 45 DEG, 1-1/2 IN		
45° 1 1/2"pipe elb	45 DEG, 1-1/2 IN, PIPE, ELBOW		
BUSH TAPER 4300 LB-IN TORQUE	BUSH,TAPER, 4300 LB-IN TORQUE	BUSHING,TAPER LOCK,1-5/8 IN,4300 LB-IN TORQUE	BUSHING,TAPER LOCK;1-5/8 IN BORE,1-1/2 IN L,3/8 X 1/8 IN KEYWAY,2-1/8 IN BOLT CIRCLE,3/8 X 5/8 IN LOCK SCREW,2 SCREW,STEEL,4300 LB-IN TORQUE
BUSHG 1-5/8 TAPER LCK	BUSHING, 1-5/8 IN, TAPER LOCK		
1-5/8" TAPER LOCK BUSHING	1-5/8 IN, TAPER LOCK BUSHING		
TORQUE 4300 LB-IN TAPER BUSHING LOCK	TORQUE 4300 LB-IN, TAPER BUSHING, LOCK		

A real-world test case

Here is the data we were given


MFR/VENDOR_NAME_1
SICK
P/N_1
A3M60A-BEPB014x17



The Utopia response within 24 hours

(from automated enrichment)

Search item		
		MFR/VENDOR_NAME_1
		SICK
		P/N_1
		A3M60A-BEPB014x17
		MFR/VENDOR_NAME_2
		SICK
		P/N_2
		1053332
		UNILEVER
		PORT SUNLIGHT
CLASS	CHARACTERISTICS NAME	CHARACTERISTIC VALUE
ENCODER	TYPE	ABSOLUTE
ENCODER	INPUT RATING	10 TO 32 VDC
ENCODER	OUTPUT RATING	
ENCODER	PULSE PER REVOLUTION	16384 PPR
ENCODER	ACTUATION TYPE	
ENCODER	TORQUE	1 NM
ENCODER	ROTATION LIFE CYCLE	
ENCODER	TERMINAL TYPE	5-PIN M12 MALE X FEMALE
ENCODER	OUTPUT CONFIGURATION	
ENCODER	SIZE	12 MM SHAFT
ENCODER	MATERIAL	STAINLESS STEEL SHAFT,ALUMINUM HOUS
ENCODER	IP RATING	IP64,IP67 SHAFT,IP67 HOUSING
ENCODER	TEMPERATURE RATING	-30 TO 80 DEG C
ENCODER	MOUNTING TYPE	FLANGE
ENCODER	CERTIFICATION/STANDARD	CE,CULUS
ENCODER	ADDITIONAL FEATURES	A3M60 PROFIBUS,RS485 PROFIBUS INTEF
ENCODER	URL	https://www.sick.com/ag/en/encoders/a
ENCODER	COMMENTS	ACTIVE



Here is a better description of the spare part that you need

The Utopia response within 24 hours

(from automated search of data previously enriched by Utopia)

		P/N_2	P/N_2	P/N_2	P/N_2
		1053332			
CLASS	CHARACTERISTIC NAME	CHARACTERISTIC VALUE	CHARACTERISTIC VALUE	CHARACTERISTIC VALUE	CHARACTERISTIC VALUE
ENCODER	TYPE	ABSOLUTE	ABSOLUTE	ABSOLUTE	ABSOLUTE
ENCODER	INPUT RATING	10 TO 32 VDC	10 TO 32 VDC	10 TO 32 VDC	10 TO 32 VDC
ENCODER	OUTPUT RATING				
ENCODER	PULSE PER REVOLUTION	16384 PPR	16384 PPR	8192 PPR	16384 PPR
ENCODER	ACTUATION TYPE				
ENCODER	TORQUE				
ENCODER	ROTATION LIFE CYCLE				
ENCODER	TERMINAL TYPE	5-PIN M12 MALE X FEMALE			
ENCODER	OUTPUT CONFIGURATION				
ENCODER	SIZE	12 MM SHAFT	12 MM	12 MM	12 MM
ENCODER	MATERIAL	STAINLESS STEEL SHAFT,ALUMIN	STAINLESS STEEL SHAFT,ALUMIN	STAINLESS STEEL SHAFT,ALUMIN	STAINLESS STEEL SHAFT,ALUMIN
ENCODER	IP RATING	IP64,IP67 SHAFT,IP67 HOUSING	IP67	IP67	IP67
ENCODER	TEMPERATURE RATING	-30 TO 80 DEG C	-40 °C TO +80 °C	-40 °C TO +80 °C	-40 °C TO +80 °C
ENCODER	MOUNTING TYPE	FLANGE	HOLLOW SHAFT FLANGE	HOLLOW SHAFT FLANGE	HOLLOW SHAFT FLANGE
ENCODER	CERTIFICATION/STANDARD	CE,CULUS			
ENCODER	ADDITIONAL FEATURES	A3M60 PROFIBUS,RS485 PROFIBUS INTERFACE			
ENCODER					
ENCODER			https://uk.rs-online.com/web/	https://uk.rs-online.com/web/	https://uk.rs-online.com/web/
ENCODER			RS Components	RS Components	RS Components
ENCODER			03457 201 201	03457 201 201	03457 201 201
ENCODER					
ENCODER					

Here are the potential functionally equivalent parts that you have in other regional facilities

The Utopia response within 24 hours

(from automated search of Utopia and OEM AIN repositories)

Here are other potential functionally equivalent parts

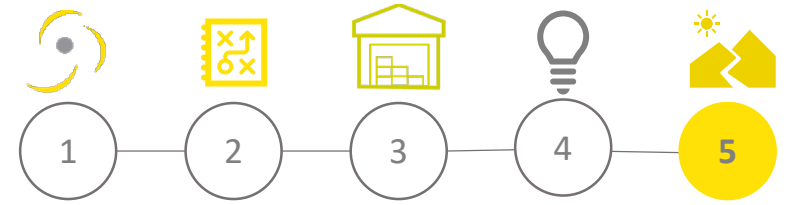
Search item			Potential Functional Equivalent				
	MFR/VENDOR_NAME_1	MFR/VENDOR_NAME_1	MFR/VENDOR_NAME_1	MFR/VENDOR_NAME_1	MFR/VENDOR_NAME_1	MFR/VENDOR_NAME_1	MFR/VENDOR_NAME_1
	SICK	PEPPERL+FUCHS	ADVANCED MICRO CONTROLS	IFM EFECTOR	IMS SYSTEMS	SENSICK	
	P/N_1	P/N_1	P/N_1	P/N_1	P/N_1	P/N_1	P/N_1
		EVM58N-011IZR0BN-1213	DC25F-C1S3BE	RO6341	63811	1030017	
	MFR/VENDOR_NAME_2	MFR/VENDOR_NAME_2	MFR/VENDOR_NAME_2	MFR/VENDOR_NAME_2	MFR/VENDOR_NAME_2	MFR/VENDOR_NAME_2	MFR/VENDOR_NAME_2
		FOCKE			TWK-ELEKTRONIK	SAN CASSIANO	
	P/N_2	P/N_2	P/N_2	P/N_2	P/N_2	P/N_2	P/N_2
		12788154		RO-0360-124	TRK58-KA4096R4096C1MK04	10.1923	
	UNILEVER	UNILEVER	UNILEVER	UNILEVER	UTOPIA REPOSITORY	UTOPIA REPOSITORY	
	HAMMOND	SIMCOE	JEFFERSON CITY	-	-	-	
	CHARACTERISTIC VALUE	CHARACTERISTIC VALUE	CHARACTERISTIC VALUE	CHARACTERISTIC VALUE	CHARACTERISTIC VALUE	CHARACTERISTIC VALUE	
		MULTI-TURN ABSOLUTE	ABSOLUTE	INCREMENTAL	ABSOLUTE	ABSOLUTE	
ENCODER	INPUT RATING	10 TO 32 VDC	10 TO 30 VDC	4.75 TO 26.4 VDC	10 TO 30 VDC	9 TO 36 VDC	10 TO 32 VDC
ENCODER	OUTPUT RATING						
ENCODER	PULSE PER REVOLUTION	16384 PPR	65536 PPR	4096 PPR	360 PPR	4096 PPR	8192 PPR
ENCODER	ACTUATION TYPE						
ENCODER	TORQUE	1 NM	1 NM		1NM AT 20 DEG C	1 NM	
ENCODER	ROTATION LIFE CYCLE						
ENCODER	TERMINAL TYPE	5-PIN M12 MALE X FEMALE	M12 SOCKET X PLUG	M12 CONNECTOR	M18 CONNECTOR	M12 CONNECTOR	M12 CONNECTOR
ENCODER	OUTPUT CONFIGURATION						
ENCODER	SIZE	12 MM SHAFT	10 X 20 MM SHAFT	3/8 IN SHAFT	12 MM SHAFT	58 DIA X 83 LG MM	12 MM SHAFT
ENCODER	MATERIAL	STAINLESS STEEL SHAFT,ALUMINUM HOUSING	STAINLESS STEEL SHAFT,HOUSING P	STAINLESS STEEL SHAFT	ALUMINUM HOUSING	ALUMINUM HOUSING	DIE-CAST ALUMINUM HOUSING
ENCODER	IP RATING	IP64,IP67 SHAFT,IP67 HOUSING	IP64,IP67 SHAFT,IP67 HOUSING	IP67 HOUSING	IP64 SHAFT,IP67 HOUSING	IP66/IP67/IP69K HOUSING	IP67 HOUSING
ENCODER	TEMPERATURE RATING	-30 TO 80 DEG C	-40 TO 85 DEG C	-40 TO 85 DEG C	-40 TO 100 DEG C	-40 TO 85 DEG C	-20 TO 80 DEG C
ENCODER	MOUNTING TYPE	FLANGE	CLAMPED FLANGE	SERVO/SQUARE FLANGE		CLAMPED FLANGE	FACE MOUNT
ENCODER	CERTIFICATION/STANDARD	CE,CULUS					CE,CULUS
ENCODER	ADDITIONAL FEATURES	A3M60 PROFIBUS,RS485 PROFIBUS INTERF	RADIAL EXIT POSITION,BINARY OUT	VITON SEAL,DURACODER,SSI MULTITURN,BINARY END CONNEC	+/-0.2%,2-BYTE CONTROL,BINA	ATM60-D4H13X13,26 BIT	
ENCODER	URL	https://www.sick.com/ag/en/encoders	https://files.pepperl-fuchs.com/w	https://www.amci.com/files/3	https://www.ifm.com/restserv	http://www.twk.de/data/pdf/1	https://www.mysick.com/sag
ENCODER	COMMENTS	ACTIVE	ACTIVE	ACTIVE-MODEL AVAILABLE NOT	NO LONGER AVAILABLE - ARCHI	ACTIVE	ACTIVE
						Delivery time approx. 8 weeks	
						€832.24 *	\$931.00
Image							

The Utopia response within 24 hours

(from automated search of OEM AIN repositories and web sources)

AVAILABLE_UK_REGION_WEBLINK	https://www.kempstoncontrols.co.uk/A3M60A-BEPB014X17/Sick/sku/884937	https://uk.vision-supplies.com/sick-a3m60a-bepb014x17	https://www.ebay.co.uk/itm/1053331-A3M60A-BDPB014X171053332-A3M60A-BEPB014X17-/233426168717	https://eltra-trade.com/products/sick-a3m60a-bepb014x17
AVAILABLE_UK_REGION_VENDOR	Kempston Controls	VISION-SUPPLIES	eBay	ELTRA TRADE
TELEPHONE	01933 656290	+44 (0) 1926 611745		+421 552 601 099
LEAD_TIME_TO_DELIVER	STANDARD DELIVERY WITH IN 1 - 2 DAYS			

Here are other potential sources of spares in your region



The Enduring **Utopia/SAP** Solution

Accurate Asset Information Aligned with ISO 14224 Standards

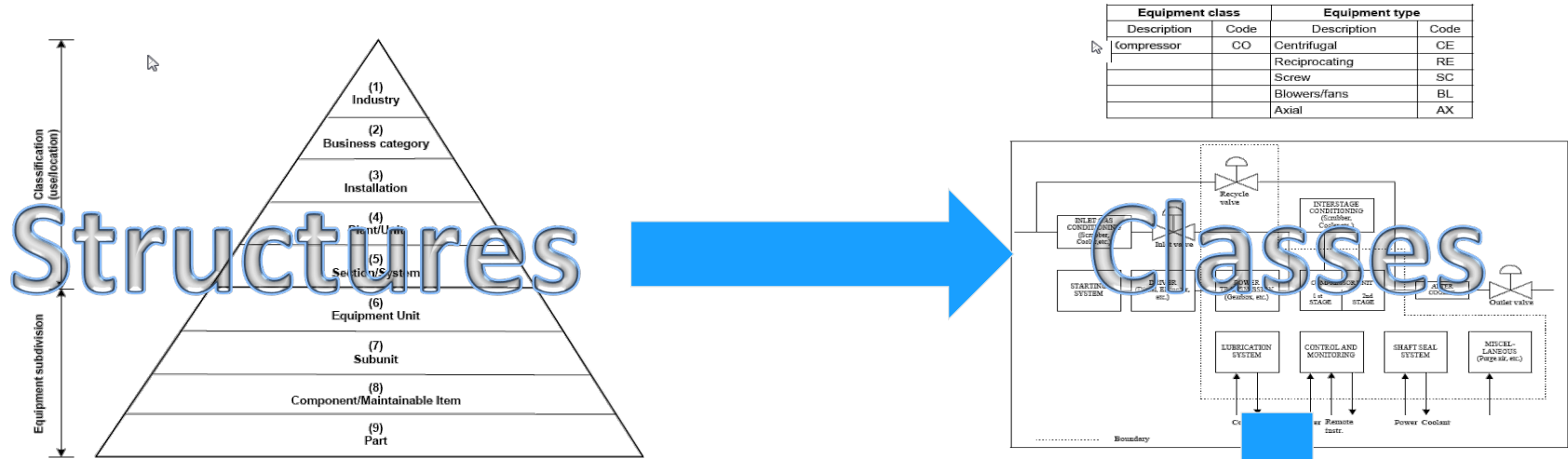


Figure 4 —Taxonomy classification

No.	Notation	Description
1.0	Design-related causes - general	Failure related to inadequate design for operation and/or maintenance, but no further details known
1.1	Improper capacity	Inadequate dimension/capacity
1.2	Improper material	Improper material selection
1.3	Improper design	Inadequate equipment design or configuration (shape, size, technology, configuration, etc., utility, manufacturability, etc.)
2.0	Failure related to installation - general	Failure related to fabrication or installation, but no further details known
2.1	Fabrication error	Manufacturing or processing failure
2.2	Installation error	Installation or assembly failure (e.g., improper alignment, maintenance not needed)
3.0	Failure related to operation/maintenance - general	Failure related to operation/use or maintenance of the equipment, but no further details known
3.1	Off-design service	Off-design or unintended service conditions, e.g., compressor operation outside envelope, pressure above specification, etc.
3.2	Operating error	Mistake, misuse, negligence, oversights, etc. during operation
3.3	Maintenance error	Mistake, errors, negligence, oversights, etc. during maintenance
3.4	Excessive wear and tear	Failure caused by wear and tear resulting from normal operation of the equipment unit
4.0	Failure related to management - general	Failure related to management issues, but no further details known
4.1	Documentation error	Failure related to procedures, specifications, drawings, reporting, etc.
4.2	Management error	Failure related to planning, organization, quality assurance, etc.
5.0	Miscellaneous - general *	Causes that do not fall into one of the categories listed above
5.1	Unknown *	Information available related to the failure cause

* The data acquirer should judge which is the most important cause if more than one exist, and try to avoid the 5.0 and 5.1 codes.

Equipment class	Components					
Subunit	Power transmission	Compressor	Control and monitoring	Lubrication system	Shaft seal system	Miscellaneous
Maintainable item / Part	Gearbox/variable drive Bearings Coupling to the driver Lubrication Seals Coupling to the driven unit	Casing Rotor with impellers Balance piston Interstage seals Radial bearing Thrust bearing Shaft seal Internal piping Valves Antisurge system including recycle valve and controllers Piston Cylinder liner Packing	Control Actuating device Monitoring Valves Internal power supply Recycle valve	Oil tank with heating system Pump with motor Check valves Coolers Filters Piping Valves Lube oil	Oil tank with heating system Reservoir Pump with motor/gear Filters Valves Buffer gas Seal oil Dry gas seal Seal gas Scrubber	Base frame Piping, pipe support and bellows Control-isolation and check valves Coolers Silencers Purge air Magnetic bearing control system Flange joints Others

Value Creation Opportunity



12% Reduction in
Obsolete Inventory



8% Reduction in
Inventory Stockpiling



82% Improvement in Work
Order Completion

The Best Practice for Asset Master Data Transformation

“No Regrets Steps”

- Asset data extraction, cleansing, enrichment from legacy systems, documents & drawings
- Establish Master Data Staging Area and load with cleansed, enriched ISO 14224 compliant asset data
 - SAP Master Data Governance – Materials
 - SAP Master Data Governance – Enterprise Asset Management
 - SAP Asset information Workbench
 - OpenText xECM for Engineering
 - SAP Asset Intelligence Network
- Maintain currency of legacy asset data until SAP S/4 deployment
- Load accurate, complete asset master data upon SAP S/4 deployment
- Maintain accuracy of S/4 master data during ongoing plant modifications



Plant of the Future

ENABLING FOUNDATION

Data Platform

Integrated, Accessible Data, Plant-wide Wi-Fi, Vendor agnostic approach, Plug/Play, Growing Capability in Data Analytics

TRANSFORMATIONAL ACTIVITIES

Field Technician

IOT, Smart sensors and Mobility

Process Control Automation

Automated Procedures, Machine Learning , Remote Monitoring/Control, Product by Process, Digital Twins

Material Management

AGV's, co-bots, Automated Visual Inspection and Correction, Auto-doffing and product handling

Asset Planning And Scheduling

Mobility for TA planning and execution, digital process and mechanical inspections, eMOC's, eWork Orders

MRO Spend Optimization

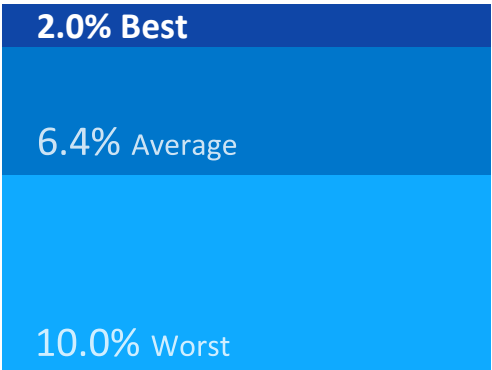
Obsolete inventory identification and inventory Stockpiling Identification

Best Run Businesses have the Advantage

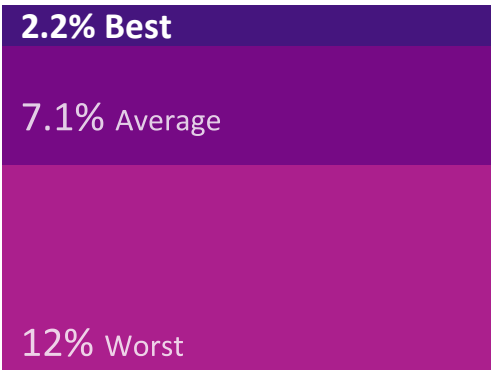
“Best run assets witness
5 times lower unplanned
downtime / outages”

“Best performers have 5
times lower annual service and
maintenance cost”

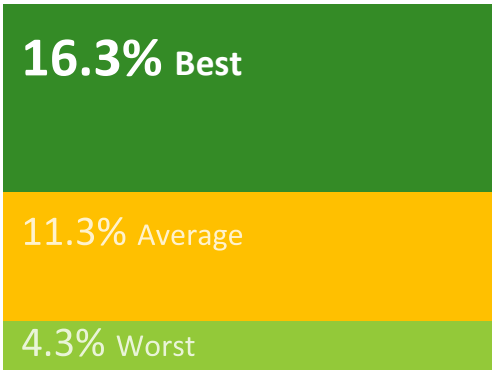
Unplanned
Downtime/Outages



Annual Service and
Maintenance Cost
(% of asset value)

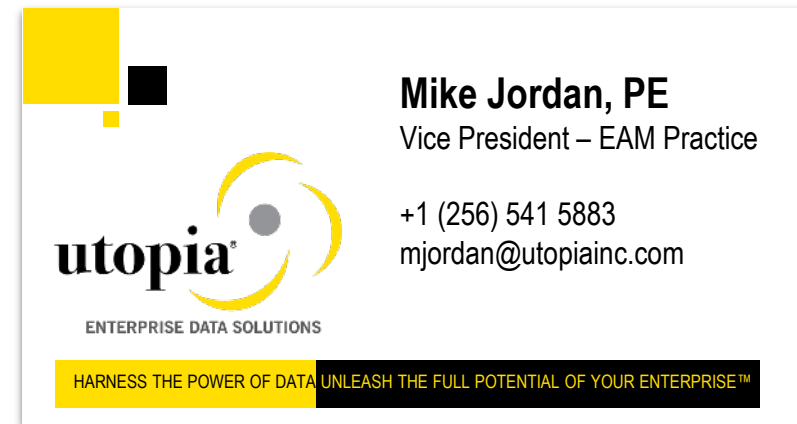


Return
on Assets



Note: “Best” = Top 25%, “Worst” = Bottom 25%

Questions?



1:1 Follow Up Discussions are Taking Place Today, Tomorrow and Through Next Week

**To Schedule: <https://bit.ly/2RFBmXb>
Or Email: sweisenberger@utopaiinc.com**