Version 2019-09-11

Title	Active	Abstract	Contacts	Version	Status	Status Date	Implemented	Adopted	Certifcation	Key Words
Generic Device Models (Controller, Field Device, Process Device)										
OPC Foundation: UA for Devices (DI)	Y	generic representation of devices, e.g. Field devices, controllers, robots, machine tools	Matthias Damm, chair	V1.00	Released	Dec-09				physical device,software component, functional grouping
				V1.01	Released	Jul-12				
				V1.02	Released	Apr-19				
OPC Foundation: Analyzer Devices (ADI)		A unified view of analysers irrespective of the underlying device protocols. Analyzer devices are comprised of one or more analyser channels with a single address space which has its own configuration, status and control. Examples: Particle Size Monitor, Acoustic Spectrometer, Gas Chromatograph	<AskOPC>	V1.00	Released	Oct-09				
				V1.00	Released	Jan-15				
UA for 61131-3 (PLCopen)	Y	Control program, tasks, controller variables, structured data, function blocks	Stefan Hoppe, chair	V1.00	Released	March-10				PLC, Controller, Automation
				V1.01	**In work**					
UA Client FunctionBlocks (PLCopen)	Y	PLC controller initiates UA communication. Controller-Controller, Controller-MES, ...		V1.00	Released	Apr-14				
				V1.01	Released	Sep-16				
UA for AutoId Devices (AutoId)		Identificaton device executing a scan, read or write process. Comprises barcode, OCR, 2D code, RFID, NFC, RTLS, sensors and mobile computing	Bernd Wieseler	V1.00	Released	Apr-16				
UA for Process Devices (FCG PA-DIM)	Y	Specify and maintain OPC UA Information Models for Process Automation Devices initially based on NAMUR Core Parameters according to NE 131 including assignment of semantic identifiers according the IEC Common Data dictionary and/or eCl@ss. Device information can be provided to the enterprise level, e.g. for diagnostics, configuration, condition monitoring, visualization, maintenance etc	Achim Laubenstein	V1.00	**In work**					Process Devices
Oil & Gas										
MCS and DCS (MDIS)		An Oil and Gas standard for interfacing the Subsea Production Control System (SPCS) with a Master Control Station (MCS) or a Subsea Gateway to the Distributed Control System (DCS).	Paul Hunkar	V1.0	Released	Jan-17				
				V1.1	Released	Oct-17				
				V1.2	Released	Oct-18				
Energistics ProdML	Y	Energistics governs and manages standards for Oil & Gas information (drilling – WITSML, producing – PRODML) which define a standardized XML data exchange format. The OPC UA mapping will allow exchanging WITSML & PRODML information between Oil & Gas drilling systems and Oil & Gas	Jay Hollingsworth	V1.00		**In work**				
Energistics WitsML	Y			V1.00		**In work**				
Manufacturing Devices, Robots, Machines, Machine Tools										
UA for MTConnect	Y	Exposes the MTConnect data standard providing connectivity with many popular SCADA and other software products on the factory floor and to the cloud. Data sources include things like production equipment, sensor packages, and other hardware.	Stan Brubaker	V1.00	Released	Nov-13				
				V2.00	Released	Mar-19				
UA for CNC systems		Focus is on data that is situated within the CNC kernel but not within the PLC of a CNC system. This results from the main objective to standardize an interface that provides and enables the access to clearly defined raw data. Hence, this addresses applications like UIs, PDA/MDA systems, diagnosis and monitoring applications, but not necessarily MES or ERP systems as the two latter ones mostly need summarized data. VDMA 40500-2	Götz Görisch	V1.00	Released	Jul-17				VDW, Automation, machine tool
Universal Machine Tool Interface (umati)	Y	Purpose is to develop an OPC UA Information Model for a universal communication interface of machine tools towards "external" communication partners, e.g. MES, ERP, cloud, automation system etc. / The implicit and explicit information model specified by umati JWG will be defined into an UA companion specification using OPC UA constructs for the purpose of exposing "machine tool information" to OPC UA applications both inside and outside the production environment. VDMA 40500-1	Götz Görisch	V1.00	**in work**					VDW, Automation, machine tool
Plastics and rubber machinery (Euromap)		**Euromap83:** General information regarding plastics and rubber machines. The intention is that ObjectTypes which can be used for several machines and applications are defined only once. For specific applications (e.g. connection of injection moulding machines to MES), it is extended by specific Companion Specifications (e.g. EUROMAP 77).	Harald Weber Marc Schmitt	V1.01	Released	Jan-19				VDMA, Automation
		Euromap 77: Data exchange between injection moulding machines (IMM) and MES Manufacturing execution systems (MES) are used for collecting the information generated by IMM at a central point for easier quality assurance and job and dataset management.		V1.00a	Released	Jan-19				VDMA, Automation
		Euromap 82.1: interface for temperature control devices (TCD) for data exchange via OPC UA		V1.00	Released	Jan-19				VDMA, Automation
	Y	**Euromap 82.2**: interface between injection moulding machines (IMM) and hot runner devices (HRD) for data exchange via OPC UA.		RC 1.00.1	Release Candidate	Oct-18				VDMA, Automation
	Y	**Euromap 82.3**: interface between injection moulding machines (IMM) and liquid silicone rubber (LSR) dosing systems for data exchange via OPC UA.		RC 1.00.1	Release Candidate	Oct-18				VDMA, Automation
	Y	**Euromap 84** series provides OPC UA information models for extrusion. The different parts describe the extrusion line as a whole, and the different components.		RC 1.00.1	Release Candidate	Oct-18				VDMA, Automation
Machine Vision	Y	Aims at straightforward integration of machine vision systems into production control and IT systems. The OPC UA Vision interface exchanges information between a machine vision system and another machine vision system, a machine PLC, a line PLC, or any software system at the control device level accessing the machine vision system.	Andreas Faath	V1.00	Released	Aug-19				VDMA, Automation
Robotics	Y	Develop an OPC UA information model for the robotics communication. Robotics stands for a complete motion device system that includes a list of motion devices. Includes for example industry robots (stationary), mobile robots (also with several robot arms), robots with several control units, service robots and many more. Scope of Part 1 to push out condition data of a motion device system vertically into higher level manufacturing systems (line PLC, MES; Cloud) for information and diagnostic purposes. Subsequent parts will cover other use cases, e. g. to configure and control a motion device system or the included motion devices.	Andreas Faath	V1.00	Released	July-19				VDMA, Automation
Weighing	Y	Develop an OPC UA information model for the communication of weighing systems. Main scope is to transport condition data of a weighing instruments vertically into higher level manufacturing systems (MES; etc.) for information and diagnostic purposes and to set information parameters regarding the weighing process (e.g. tare weight, offsets).	Dirk Bösel	V1.00		**In work**				VDMA, Automation
End-of-arm Tools	Y	Information models for different End-of-Arm Tools (EoAT). Examples for these End-of-Arm Tools are grippers, screwdrivers, welding machines and exchange units. These tools can be used in conjunction with a robot or independently. Asset Management, Condition Monitoring, Configuration	Etienne Axmann	V1.00		**In work**				VDMA, Automation
High Pressure Die Casting	Y	Information model for the communication between devices of a "High Pressure Die Casting Production Cell" and between the devices and systems outside of the production cell (e.g MES or ERP software systems).	Kai Kerber	V1.00		**In work**				VDMA, Automation
Powertrain	Y	Powertrain stands for a drive system that includes the motor starter, complete drive module (CDM), electric motor and transmission elements. The CDM includes for example a frequency converter with all additional components like electrical infeed, input and output filter etc. Powertrains can be used in various industrial applications. Everything that has to be moved, turned, lifted or positioned can be converted with drive technology.	Tobias Hitzel	V1.00		**In work**				VDMA, Automation
Surface Technology	Y	Information Models for surface treatment machinery, which define the data transport among surface treatment machinery, between surface treatment machinery and supporting systems (e.g. technical ventilation, conveying systems) and from surface treatment machinery into higher level manufacturing systems (e.g. MES), for information and diagnostic purposes and to set information parameters regarding the surface treatment process. Surface treatment machinery includes e.g. cleaning and pre-treatment machinery, shot blasting machinery, paint application machinery, paint drying machinery, plasma surface treatment machinery.	Peter Turczak	V1.00		**In work**				VDMA, Automation

Woodworking Machinery		Information models for commonly used woodworking machines and equipment used in primary and secondary wood processing. Woodworking machines (WWM) are stationary or displaceable machines designed to machine and/or process wood and material with similar physical characteristics to wood, such as chipboard, fibreboard and plywood, including when covered with plastic or light alloy laminates/edges, as well as cork, bone, rigid rubber or plastics.	Eckhard Licher	V1.00		**In work**				VDMA, Automation
Glass Industries		Information models for glass production and processing equipment and a basic description of the flat glass cutting equipment. Main scope is to transport condition data of glass production and processing equipment, in particular flat glass cutting systems vertically into higher level manufacturing systems (MES; etc.) for information and diagnostic purposes as well horizontally to directly connected machines.	Gesine Bergmann	V1.00		**In work**				VDMA, Automation
Pumps and Vacuumpumps		Information models to enable the communication of condition and operation data of pumps and vacuum pumps. The data exchange can be realised vertically into higher level manufacturing systems (e.g. MES) for information and diagnostic purposes or horizontally to similar equipment to align its interaction or co-operation in a process. Additionally, the setting of information parameters regarding the pumping process (e.g. max. or min. The basic description of pumps and vacuum pumps is supplemented by selected use cases (Identification; Design; System requirements; Implementation; Condition Based Maintenance; Preventive Maintenance; Breakdown Maintenance and Operation)	Friedrich Klütsch	V1.00		**In work**				VDMA, Automation
Enterprise, Asset Mgmt, Packaging											
OPC Foundation: **UA for ISA-S95**		describes the flow of information between Manufacturing Operatipons Management (MOM) and Enterprise Resource Management (ERP) systems	<AskOPC>	V1.00	Released	Oct-13				MES
Mimosa CCOM	Y	MIMOSA CCOM (Common Collaborative Object Model) serves as an information model for the exchange of asset information. It is envisioned that multiple versions of this companion specification will be generated, in that the initial version will model some portion of the large robust CCOM model and additional versions will build on the initial portion as needed.	James Fort, Sandra Fabiano	V1.00		**In work**				
Product Serialization (Open-SCS)	Y	Driven by Healthcare Providers, the OPEN-SCS initiative directly addresses the Healthcare Industry's Product Serialization Regulation Wave of the next decade. The OPEN-SCS Working Group (OPEN-SCS) is partnered with the OPC Foundation to develop an open source standard in the Packaging Serialization Global Name Registry and an associated set of subscription-based work products. The open standard and work products are focused on the standardization of data exchanges for Healthcare packaging serialization and the aggregations between a Healthcare provider's enterprise serialization management function and their product packaging lines.	Dennis Brandl	V1.00		**In work**				Pharma
OMAC PackML		A packaging standard.Reflects the ISA88 Technical Report (TR88.00.02). Defines StateMachines for the PackML states.	Frank Apolito	V1.01	Released	Nov-18				
Weihenstephan Standards		Creation of OPC UA Companion Specifications (CS) for the existing "Weihenstephan Standards", e.g. WS Food, Pack, Bake, Brew. The Weihenstephan standards cover different domains, such as packaging and food processing machinery, whose special machines show almost no similarities. Since these machines also need different permutations of data sets available in the information model, it is not possible to describe one single OPC UA information model that is valid for all special machines within the domain of packaging and food machinery.	Christoph Nophut		in work					
Asset Administration Shell	Y	An OPC UA information model for exposing I4AAS information to OPC UA applications and to exchange asset information between Industrie 4.0 components. The conceptual input is a result of the Plattform Industrie 4.0 Working Group 1 "Norms, Standards and Reference Architecture", the ZVEI Mirror Group "SG Standards and Models" and the ZVEI sub working group "Administration shell in detail". Coordinates with other stakeholders (like the VDMA) to synchronize the I4AAS with e. g. the initiative "VDMA Mechanical Engineering CS Type A" – which specifies the basic properties and functionalities in the mechanical engineering industry.	Florian Pethig, Christian Diedrich	V1.00		**In work**				
Engineering											
DEXPI	Y	Develop an OPC UA Information Model for the DEXPI P&ID specification (see http://www.dexpi.org/wp-content/uploads/2016/05/DEXPI-Specification.pdf). P&IDs are the central documents of the plant lifecycle. CAE vendors are currently working on the support for the DEXPI P&ID specification as an export format for Piping and Instrumentation diagrams (P&IDs) in their next software release.	Nikolaos Papakonstantinou	V1.00		**In work**				
UA for AutomationML model		Standardized data exchange in the engineering process of production systems (CAD, electrical planning, mechanical planning, simulation, PLC programming, HMI) leading to a time and cost reduction.	Miriam Schleipen	V1.00	Released	Feb-16				
Fiel Device Integration											
Field Device Integration (FDI)		Manages information from intelligent field devices during their entire lifecycle – from configuration, commissioning and diagnostics to calibration, making one-off solutions for different devices obsolete. Model for host systems and the FDI communication server information model.	Achim Laubenstein	V1.2	Released	Jul-19				Deivice Integration, Field Communication, Fieldbus, Process Automation
Field Device Tool (FDT)		Maps the information of Device Type Manager (DTM) enabled devices. A DTM is a software component specific to a field device type.		V1.0	Released	Nov-16				Device Integration, Process and Factory Automation
Field Communication											
UA for SERCOS		Mapping of Sercos services and objects (IDNs) to OPC UA so that a vendor independent access to information provided by Sercos devices is given. Sercos devices are controls, drives, I/Os and other decentralized peripheral, such as encoders, safety devices and vision systems.	Klaus Weyer	V1.2	Released	Apr-17				Fieldbus
UA for Powerlink		OPC UA Information Model to represent the models from Ethernet POWERLINK (EPSG).	Thomas Enzinger	V1.00	Released	Nov-17				Fieldbus
Csp+ForMachine (CCLink)		Allows configuration and maintenance of machines in a CC-Link network. This includes: machine specifications, application software, what data should be acquired and how, and the relationship between machine data and information.	Takemura Yudai	V1.00	Released	Nov-17				Fieldbus, CC-Link Partner Association (CLPA)
UA for IOLink		Information Model to represent and access IO-Link Devices and IO-Link Masters. IO-Link is the first standardized IO technology worldwide (IEC 61131-9) for the communication with sensors and also actuators. The powerful point-to-point communication is based on the long established 3-wire sensor and actuator connection without additional requirements regarding the cable material. So, IO-Link is no fieldbus but the further development of the existing, tried-and-tested connection technology for sensors and actuators.	Markus Rentschler	V1.00	Released	Dec-18				Fieldbus
UA for ISA 100		An OPC UA Information Model that maps to the ISA100 Wireless technology.	Daniel Sexton		in work					wireless for industry
UA for PROFINET	Y	PROFINET is an open industrial fieldbus protocol based on standard ethernet. Scope is to represent the standardized object model (Object Dictionary) from PROFINET with an OPC UA Information Model. Shall enable access to objects of PROFINET devices in a vendor independent way for horizontal communication on the field level, as well as vertical communication initiated from devices in the process or enterprise level, e.g. for diagnostics, configuration, condition monitoring, visualization etc.	Andreas Uhl	V1.00	Release Candidate	member review				Fieldbus
Safety over UA	Y	OPC UA will become the common basis when machines need to communicate among each other, e.g. for a horizontal line integration in a factory. Since a machine is typically represented by a controller, this kind of communication is also referred to as "controller to controller" communication. On field level, PROFIsafe has emerged to the leading safety profile in the industrial automation market over the last years. However, machine builders and end users more and more ask for Functional Safety communication also on the control level. A new specification for machine-machine communicationwill combine the benefits of OPC UA with the most widely used PROFIsafe safety profile. The PROFIsafe safety mechanisms (CRC polynomial, SIL monitor, possibly parts of the state machine) shall be reused in order to avoid a lengthy certification process for developed products. The specification shall cover the OPC UA services Client/Server, Pub/Sub and Pub/Sub based on TSN (time-sensitive networking) in order to address their different deterministic behavior resp.	Max Walter	V1.00	Release Candidate	member review				Automation, Controller-Controller
Building											
BACnet		Describes a gateway interface between the BACNET object model and OPC UA -> integration of building and industry automation.	Frank Schubert	RC 1.00						
Energy											

IEC 61850		Support the integration of electrical aspects into an industrial plant. It defines an OPC UA Information Model to represent electrical substation automation systems. The focus is on data exchange between a gateway to devices used to control electrical networks.	Raymond Borscia	V1.00	Release Candidate	Feb-18				
UA for Wind Power Plants (IEC61400-25)	Y	Carried out by USE61400-25 (user group for IEC61400-25). Input for IEC TR 61400-25-41. Planned to replace OPC-XML DA mapping of IEC61400-25-4 in edition 3. Goal: Provides OPC-UA access to exchange wind power domain data according to the IEC61400-25.	Mareile Wilkens	V1.00		**In work**				
Miscellaneous										
TMC Tobacco		Information Model to represent tobacco industry machine information to higher-level manufacturing systems (MS/MOM) and to ease machine-to-machine communication.	Diego Paccagnan	V1.00	released	Nov-17				Machine Communication
UA for Professional Kitchen Devices (HKI)	Y	Fryer, Frying Pan, Combi Steamer, Convection Oven, Multiple Deck Oven, Pressure Cooking Kettle, Cooking Kettle, Multi Function Pan, Pasta Cooker / Cook Marie, Coffee Machine, Dishwashing Machine, Servery System, Cooking Zone, Frying And Grilling Appliance, Microwave Combination Oven, Ice Machine	Fabian Anzmann	V1.00	released	Jul-19				