VERIFICATION
VALIDATION
METHODS

PROJECT of the PEGASUS FAMILY

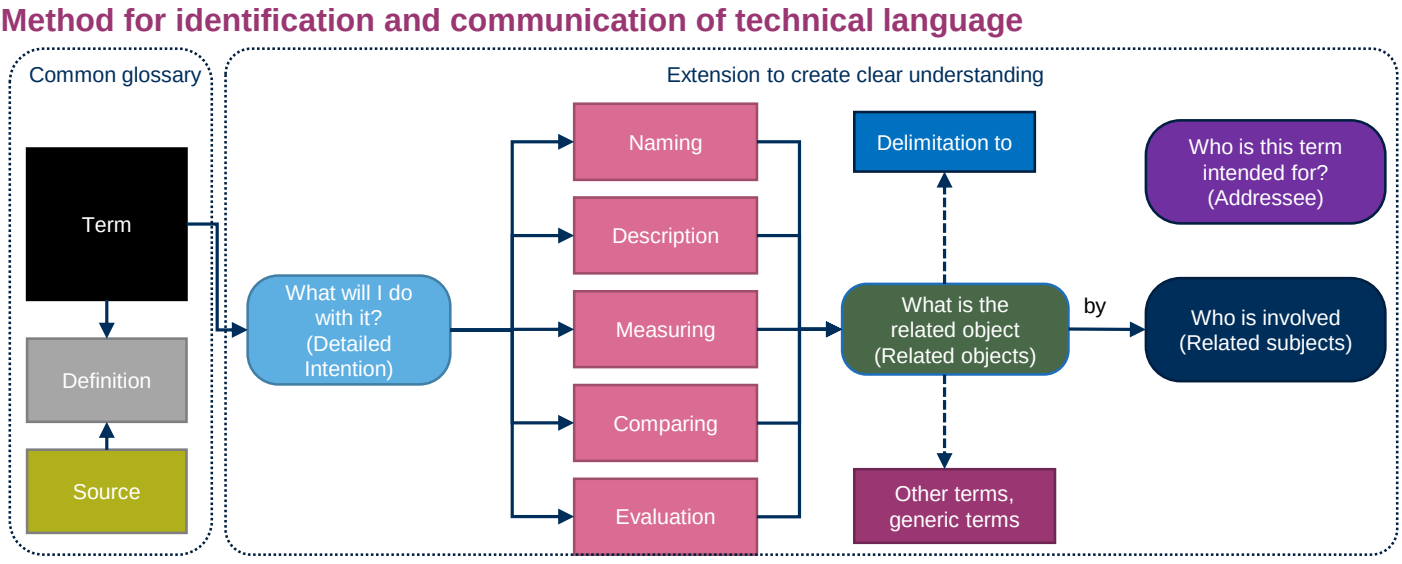
THE VVM-GLOSSARY

Process to create a common understanding of terms.

Christoph Thiem, Opel Automobile / Stellantis

- Wide range of topics in VVM makes a common understanding very difficult.
- To avoid misunderstandings a method was introduced and applied to the glossary, resulting in additional fields besides “definition”.

Method for identification and communication of technical language



Source: Beck,2020

Term	Intention	Detailed Intention	Definition	Related objects	Related subjects	Addressee	Relation to other terms	Delimitation	Source
<identifier>	<Naming> <Description> <Measuring> <Comparing> <Evaluation>	<why is this term needed, why is it introduced>	<textual definition, including reference to other terms>	<objects> for example traffic lights, track, cars, ...	<humans> <animals> <dirvers> <pedestriancs> etc	<layer> <engineers> <public> <decider> <safety responsible>	<terms which are defined with this term, explain other terms or defining this term here>	<what is it NOT>	<Source>
Driver equivalent (machine)	Comparing	This term should help to compare the many aspects of people in traffic, perception, intention, skills, expectations with a machine. This comparison should be made using problem-oriented abstraction from experience-based or theoretical knowledge	The representation of human drivers obtained via the driver equivalent (human) is the driver equivalent (machine) and forms the basis for checking the equivalence with the machine representation/the digital twin of the automated driving function. The driver equivalent is fulfilled when the automated function (machine representation) achieves a defined and verifiable maximum deviation from the driver representation in the considered comparison dimensions	Automat, traffic rules	Driver	criticality analysis, function developer, Testing, VVM	Prediction, Perception, Mission, Driving, Order, Performance	Statistical variables such as driver normal, individual performance values	TP3
influencing factor	Naming	Categorizing factors that influence traffic situations (or criticality).	Factor (parameter) that influences a traffic situation	All things in traffic	road users	Accident researcher, traffic planner, test engineer, requirements engineer, simulation engineer	Criticality analysis, traffic situation, traffic scenario	Phenomenon, criticality phenomenon, causal connection, causal chain	OFFIS, Bosch, ZF
Quality Criteria	Evaluation	It is necessary for judgments to know when the condition for a decision is met and when not. Here: value of a -> quality measure that is used for a decision/condition	Quality criteria define distinguishing characteristics of a quality (~ quality) for a condition, a decision or a fact. Example: Falling below a value is necessary for a release.	Technical products	-	Engineers, Judges, Regulatory Authority, All TPs	Measure of quality, example: "Pass Fail Criteria"	ability, performance	Bosch

www.vvm-projekt.de Twitter @vvm-project LinkedIn VVM Project

Projektpartner

A project developed by the VDA Leitinitiative autonomous and connected driving

Supported by: Federal Ministry for Economic Affairs and Climate Action on the basis of a decision by the German Bundestag

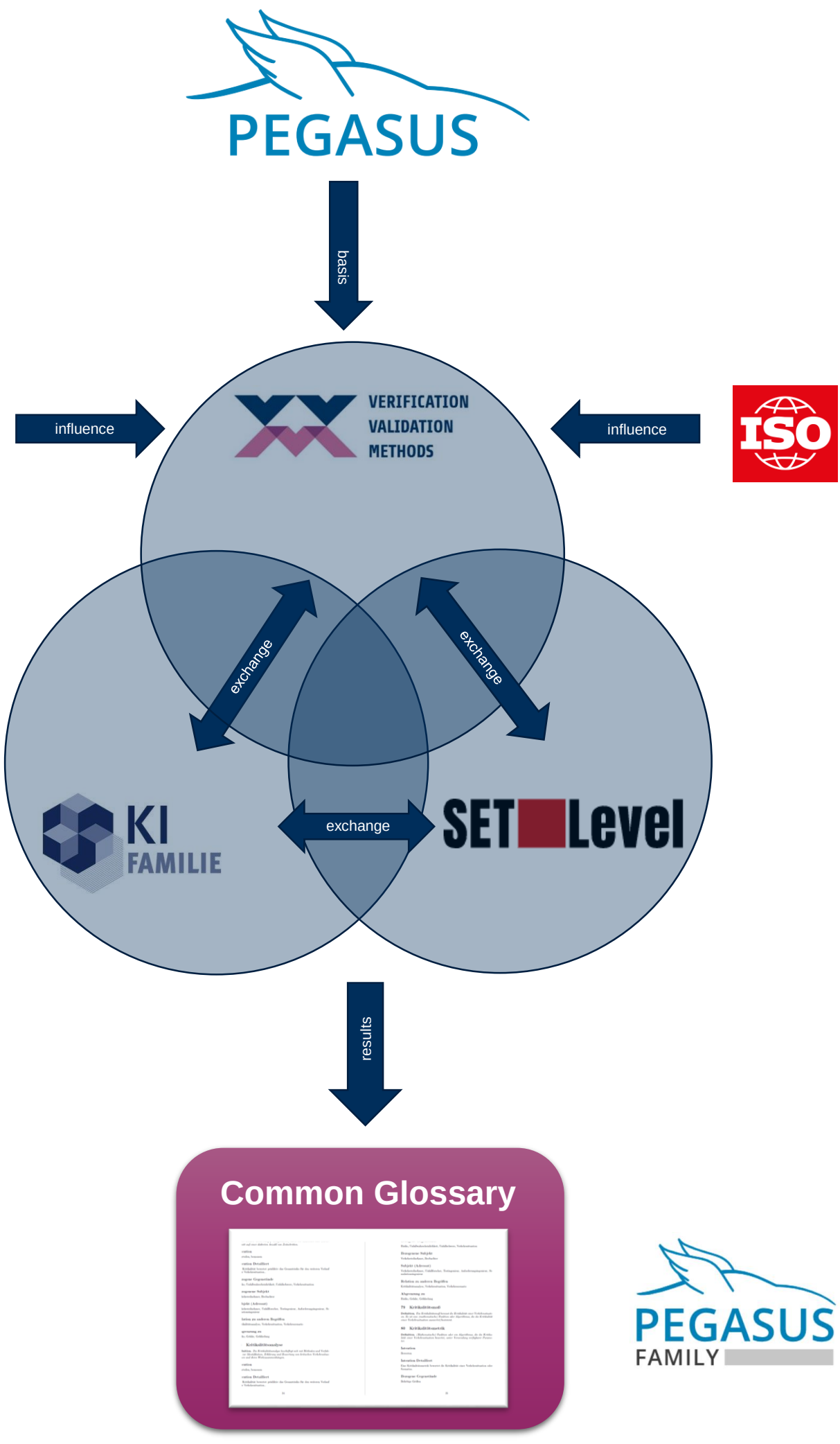
VERIFICATION
VALIDATION
METHODS

PROJECT of the PEGASUS FAMILY

THE VVM GLOSSARY

Communication to create a common glossary with other projects.

Christoph Thiem (Opel Automobile GmbH)



PEGASUS FAMILY

www.vvm-projekt.de Twitter @vvm-project LinkedIn VVM Project

Projektpartner

A project developed by the VDA Leitinitiative autonomous and connected driving

Supported by:

Federal Ministry for Economic Affairs and Climate Action

on the basis of a decision by the German Bundestag