

# Quality and Compliance

write, review, and manage textual requirements and procedures



**Semios**

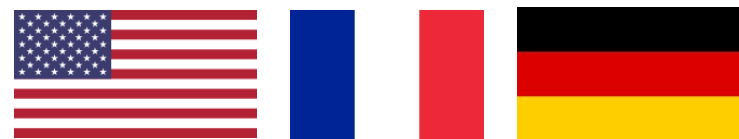
**Beyond Words**

# Beyond Words

Four core technologies





Multi-language



Adoption oriented



 <b>Semios</b>	Full compliance with semantic world standards	 <b>Semios</b>
--	--	--



Guide for writing requirements 2.1 : 2017



ISO/IEC/IEEE 29148 : 2018



# SEMIOS FOR REQUIREMENTS

# SEMIOS FOR PROCEDURES

Extract of Semios ability for Semantic Quality

- Ability to perform advanced data analysis of incremental meter readings

*End Requirement* : End Requirement

ID : AMR-STK-119

The AMR system shall have an operational life of no less than five years.

*End Requirement* : End Requirement

ID : AMR-STK-66

The handheld device shall allow for upload of all information collected on handheld computers during meter rounds, so that data can be compiled. Data shall be retrievable to business office computers in a manner that will interface with the existing billing system.

*End Requirement* : End Requirement

ID : AMR-STK-99

The supplier shall be able to see a record of leakage data on the central office data store.

*End Requirement* : End Requirement

ID : AMR-STK-89

The supplier shall be able to collect data through multiple mechanisms.

**Commenté [SEMIOS\_6]: OK**

Analysis context used: Default

**Commenté [SEMIOS\_7]: MEDIUM - Verifiability**

**Multiple requirements** (shall)

Analysis context used: Default

Rule IEEE: The requirement statement includes only one requirement with no use of conjunctions.

**Commenté [SEMIOS\_8]: Low - Verifiability**

**Non verifiable term** (all)

Analysis context used: Default

Rule IEEE: Vague and general terms shall be avoided - Open-ended, non-verifiable terms

**Commenté [SEMIOS\_9]: Low - Readability**

**Useless term** (so that)

Analysis context used: Default

**Commenté [SEMIOS\_10]: Low - Readability**

**Rationale included in a requirement** (so that data can be compiled)

Analysis context used: Default

**Commenté [SEMIOS\_11]: MEDIUM - Completeness**

**Passive construction** (be compiled)

Analysis context used: Default

Rule IEEE: The stated requirement needs no further amplification because it is measurable and sufficiently describes the capability and characteristics to meet the stakeholders need.

**Commenté [SEMIOS\_12]: MEDIUM - Verifiability**

**Multiple requirements** (shall)

Analysis context used: Default

Rule IEEE: The requirement statement includes only one requirement with no use of conjunctions.



# SEMIOS FOR ACRONYMS

Extract of Semios ability for detection of acronyms

## 4 Acronyms with multiple definitions

This section lists the acronyms which are possibly defined several times within the analyzed document.

For the analyzed document, if exactly the same definition is repeated several times (same words, same characters case), it is not reported in the list below.

The results listed below can help detect inconsistencies, ambiguities and redundancies in defining and using acronyms.

Acronym	Number of occurrences	Definitions
A/C	188	<ul style="list-style-type: none"> <li>❖ Aircraft</li> <li>❖ AirCraFt</li> </ul>
BITE	53	<ul style="list-style-type: none"> <li>❖ Built-in Test Equipment</li> <li>❖ Built In Test Equipment</li> <li>❖ BUILT - IN TEST EQUIPMENT</li> </ul>
CS	14	<ul style="list-style-type: none"> <li>❖ Conducted Susceptibility</li> <li>❖ Certification Standards</li> </ul>
DSI	19	<ul style="list-style-type: none"> <li>❖ Discrete Signal Input</li> <li>❖ Discrete Input</li> </ul>
I/O	147	<ul style="list-style-type: none"> <li>❖ Input /Output</li> <li>❖ Input / Output</li> <li>❖ Inputs and Outputs</li> </ul>

## 2 Acronyms without definition

This section lists the acronyms with no detected definition in the analyzed document.

1. A&B (1 occurrences)
2. A-GPS (1 occurrences)
3. A/B (10 occurrences)
4. A/D (15 occurrences)
5. A/ICE (27 occurrences)
6. AA (5 occurrences)
7. ABD (2 occurrences)
8. ABDs (1 occurrences)

## 3 Acronyms with single definition

This section lists the acronyms that were defined once and only once in the whole document given for analysis.

The definition could either have been detected in tables or in the document's body text.

Acronym	Number of occurrences	Definition
AC	52	Alternative Current
ACL	2	access control list
ACS	7	Air Conditioning System
FC/NFC	2	Full Close / Not Full Close
G/T	9	Gain over Temperature
I2C	6	Inter-Integrated Circuit
M&C	2	Monitoring & Control
MIL-STD	1	Military Standard
MxB	28	Matrix Beam
N.C.	1	No Connected
PoP	13	Prevention of Pressurization
QP	2	Qualification Test Plan



# SEMIOS FOR SIMILARITIES

Extract of Semios ability for detection of similarities

## 5.2 Group 2 (6 requirements suggested)

Similarity: Closely similar

%	ID	Text
	AMR-SR-103	The system shall have a permanently installed network to capture meter readings
71.43 % / 23.81 %	AMR-SR-110	The system shall consist of a series of antennas, towers, collectors, repeaters, or other permanently installed infrastructure to collect transmissions of meter readings from AMR capable meters and get the data to a central computer without a person in the field to collect it.
42.86 % / 25.00 %	AMR-SR-104	The system shall collect transmissions of meter readings from AMR capable meters and get the data to a central computer without a person in the field to collect it.
42.86 % / 23.08 %	AMR-SR-49 ter	The meter interface unit shall support all data collection functions (data reading, time-triggered operation, and management ) of the AMR system

## 5.10 Group 11 (3 requirements suggested)

Similarity: Likely similar

%	ID	Text
	AMR-SR-117	The handheld unit shall function in environments with 99% ambient humidity.
50.00 % / 40.00 %	AMR-SR-116	The handheld unit shall function in environments from - 5 degree C through + 50 degree C.
37.50 % / 11.11 %	AMR-SR-118	The handheld unit's external case shall have no sharp edges and no pointed corners (minimum radius 2mm).  The handheld unit shall remain fully functional following a drop onto concrete from a height of one metre onto any edge, face or corner.  The handheld unit shall have a design life of 5 years



**Quality and comfort**  
Easy to install, maintain, use

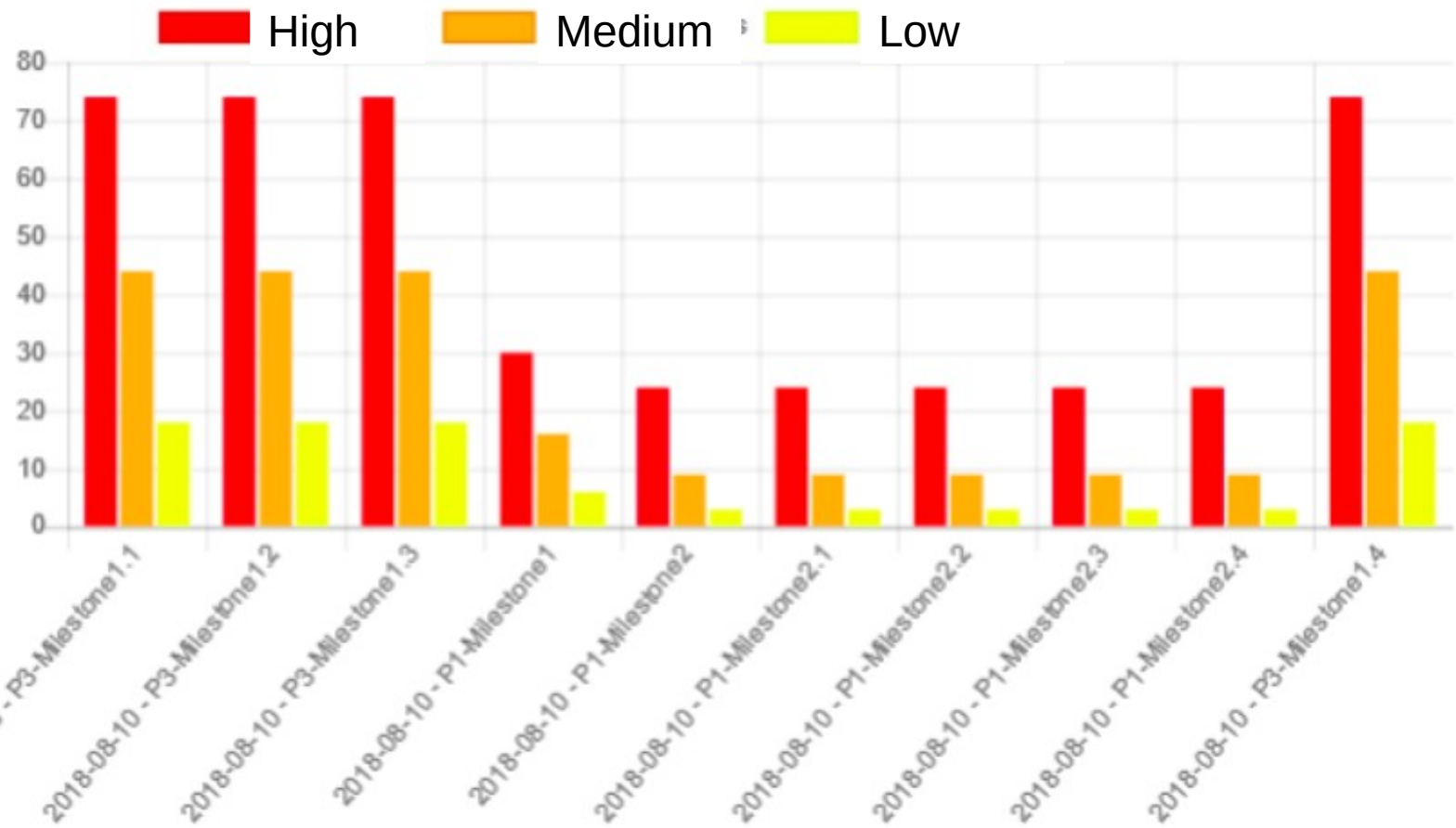
**2 seconds**  
per requirement  
per core



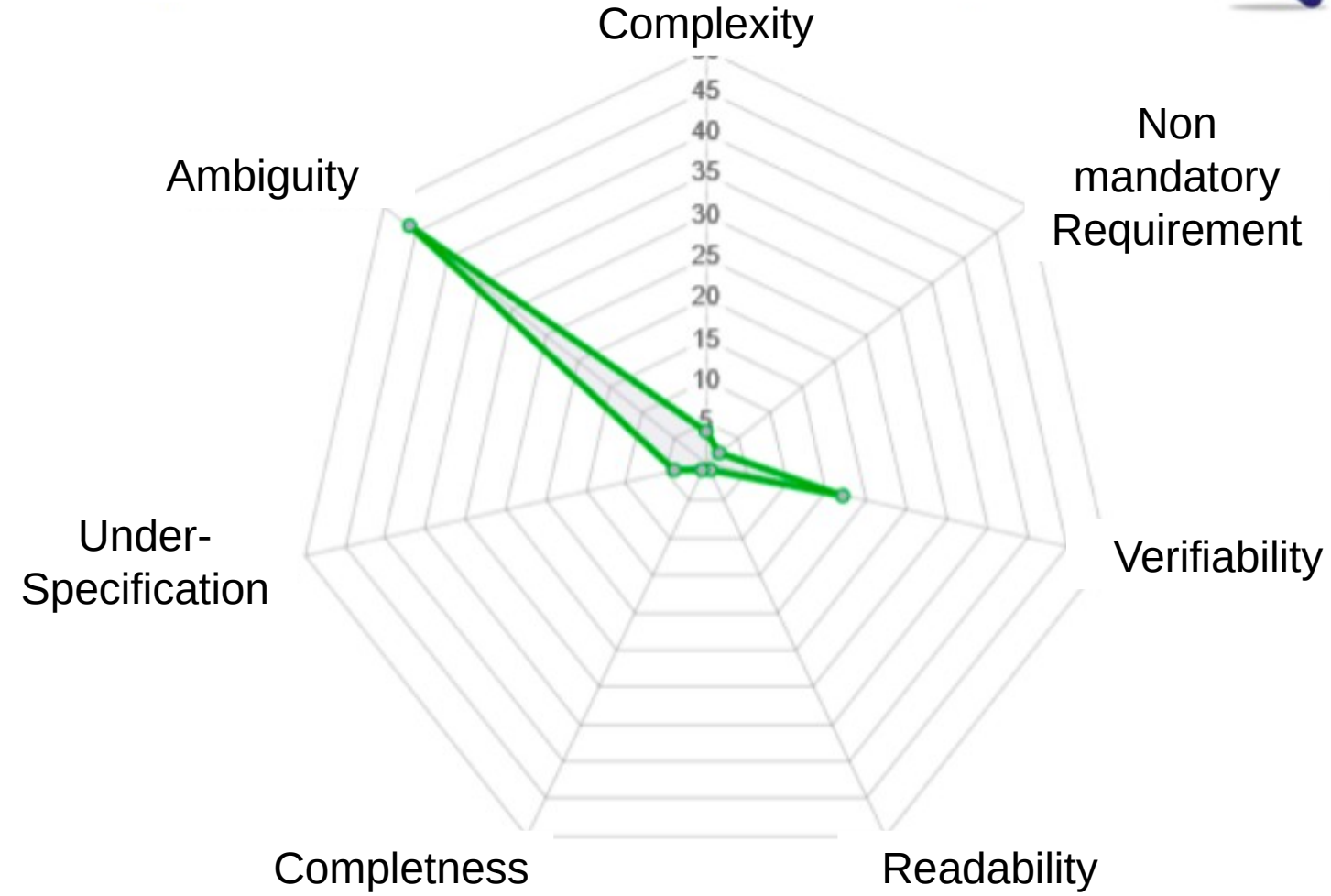


# Dashboard

Semios' Remarks by severity



Semios' Remarks by impact





# 10 YEARS of history

2013  
LELIE

2015  
SEMIOS 1.0

2017  
SEMIOS 2.0

2019  
SEMIOS 3.0

2010  
TEXT COOP



the guide  
v1.0



29148 : 2011



the guide  
v0.0



830 : 1998



the guide  
v2.1



29148 : 2018



the guide  
v2.0

Readability

Similarity

Unambiguity

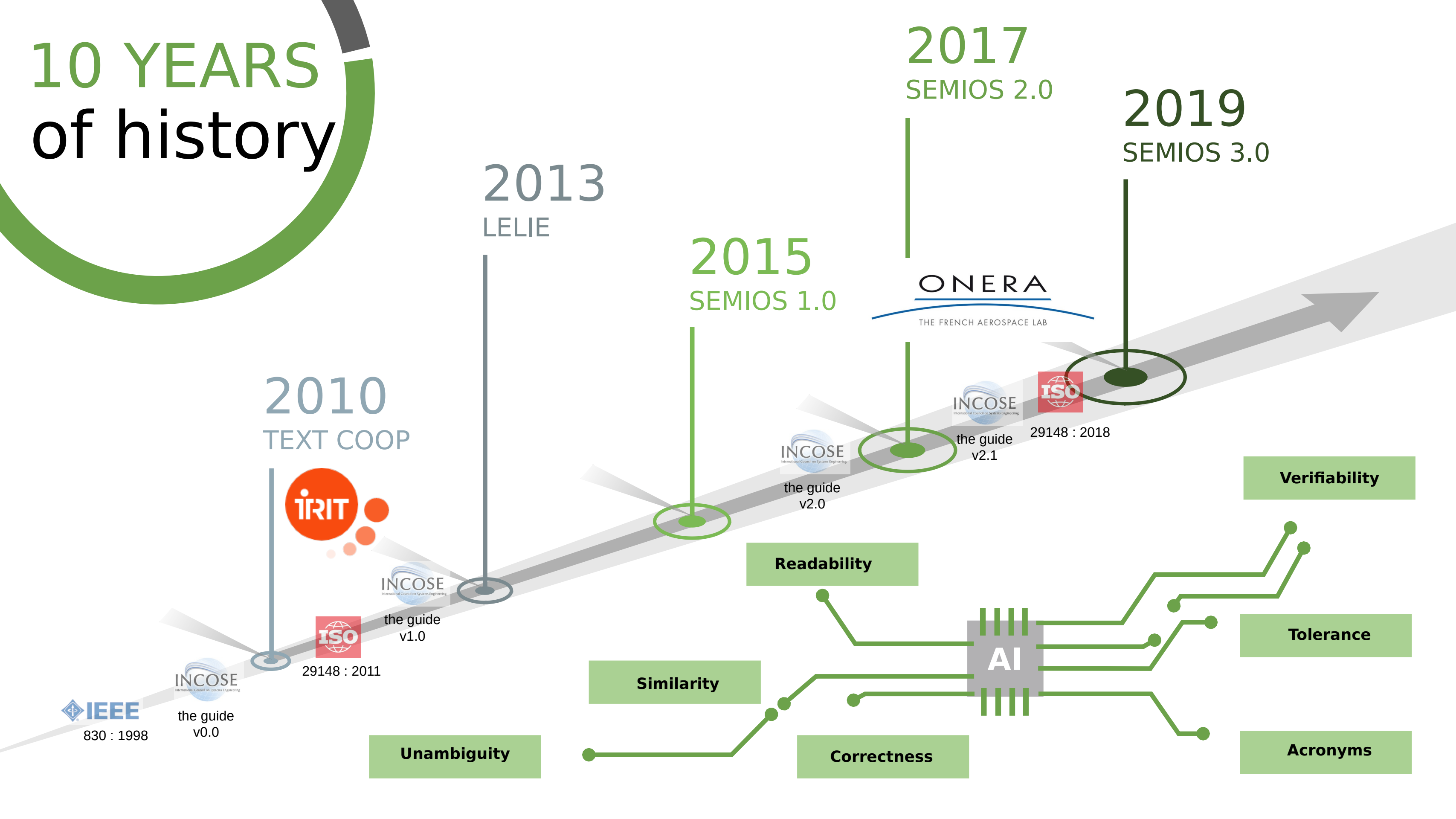
Correctness

Verifiability

Tolerance

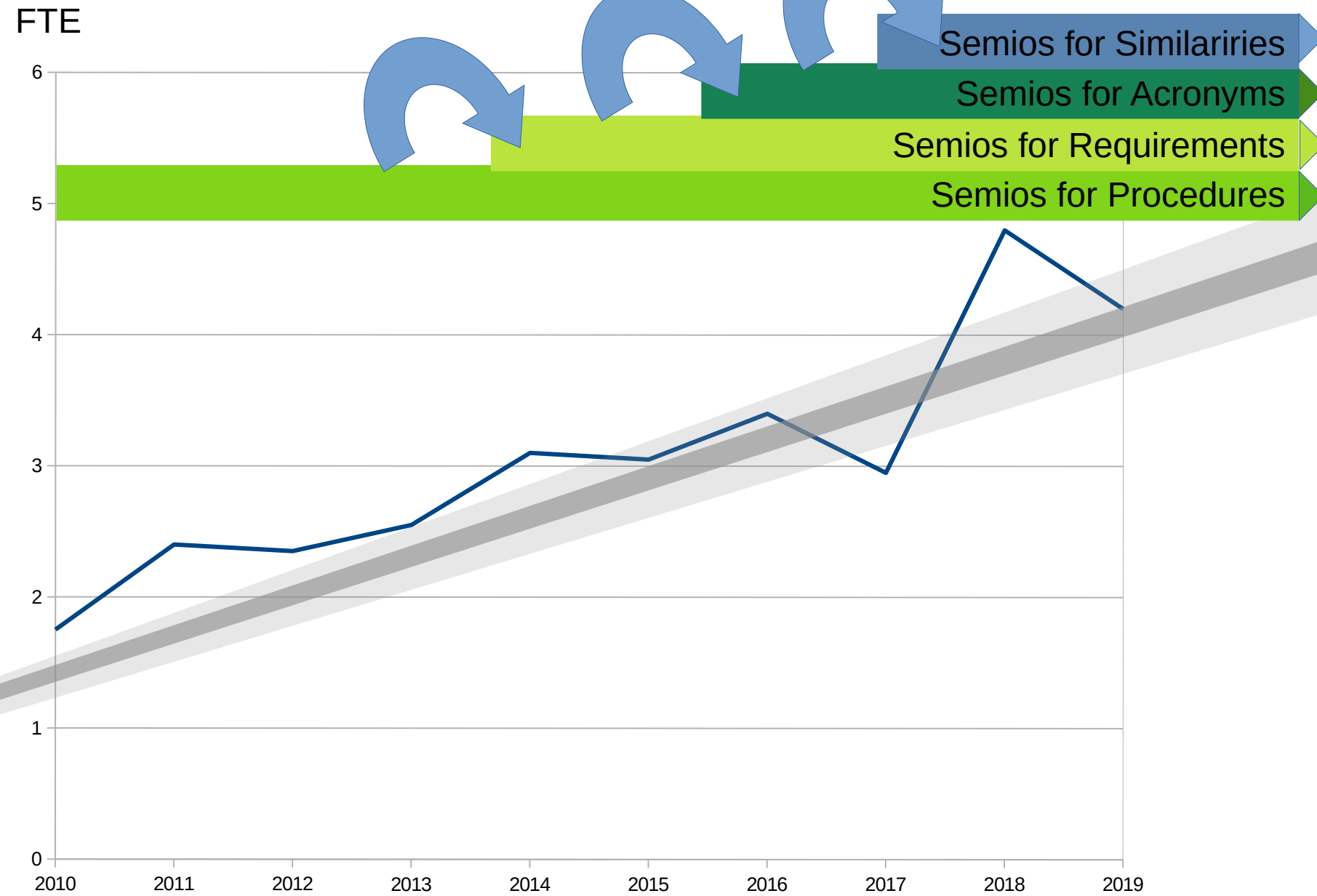
Acronyms

AI



10 YEARS  
of history

# A year over year learning



35 YEARS  
of State  
of the Art

# Toulouse : A worldclass manufacturing & engineering eco-system

198x / 199x  
Origin of Verilog  
Couple of Researchers - Software Engineering

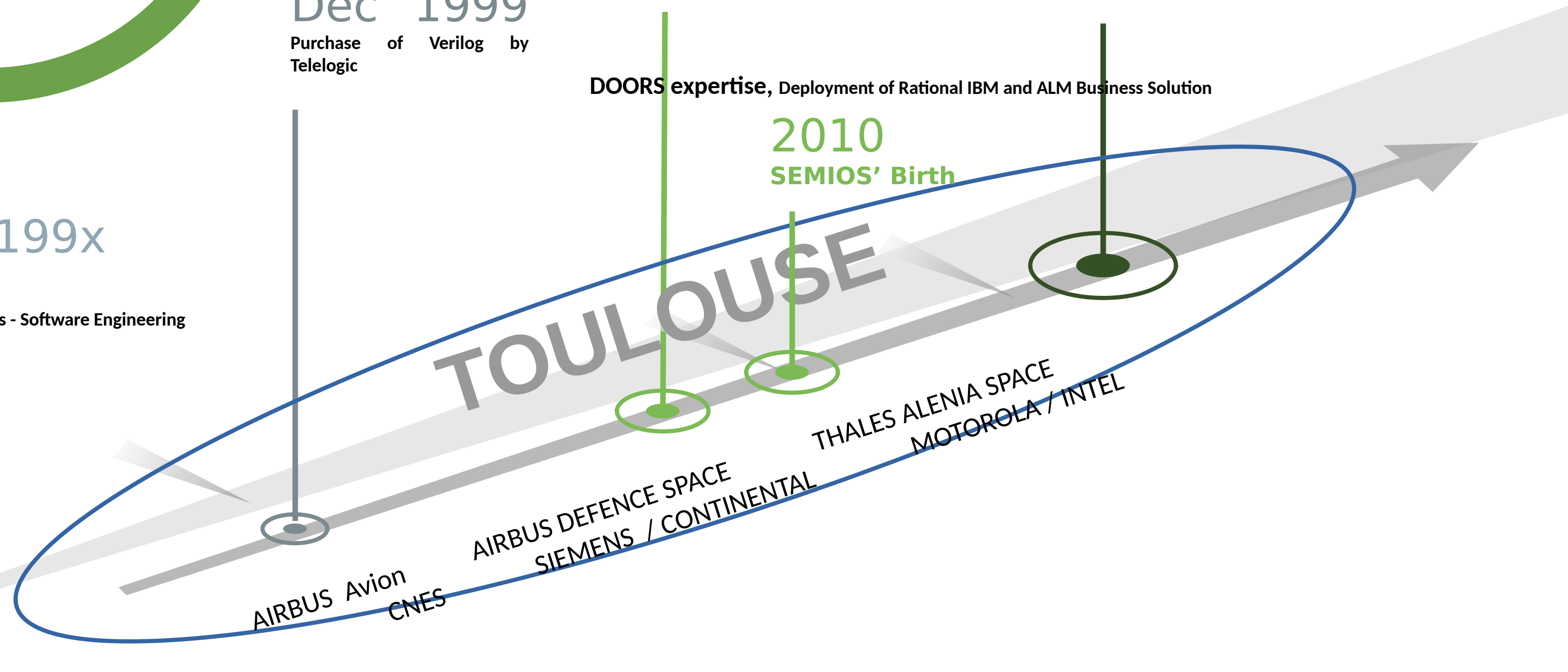
Déc 1999  
Purchase of Verilog by  
Telelogic

2007  
PROMETIL

DOORS expertise, Deployment of Rational IBM and ALM Business Solution

2010  
SEMIOS' Birth

2018 - SALE OF ALM SERVICE  
ONELIGHT / SEMIOS



AIRBUS Avion  
CNES

AIRBUS DEFENCE SPACE  
SIEMENS / CONTINENTAL

THALES ALENIA SPACE  
MOTOROLA / INTEL

## Some references

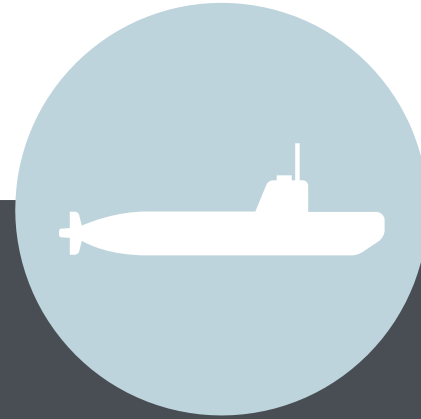
---



CNES  
THALES



AIRBUS  
D&S



Naval  
group



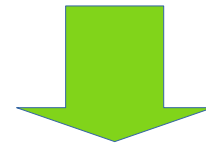
Continental  
JTEKT



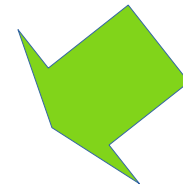
PARTNERS  
IRIT - ONERA



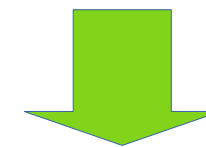
# Benefits



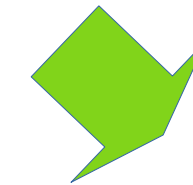
**Quality of requirements**  
Contractual heart



**80 %**  
Saving of review time



**Motivation**  
Of engineers



**Security**  
economic

# Beyond Words

