What is SPiCE 1-2-1?

SPiCE 1-2-1 is the self assessment tool for software development organizations and projects to evaluate and analyze their systems and software development processes according to **AutomotiveSPiCE** resp. **ISO/IEC IS 33000** (former 15504).

You perform an assessment to determine your strengths and weaknesses concerning your way of developing systems and software.

Use SPiCE 1-2-1 to rate selected processes for development for a project within one or two days.

The result contains comprehensive evaluations and analysis in the form of charts. If demanded, a report can be generated.

The rating can be done on your own, within a group of your organization (Self-Assessment) or it can be guided using the help of a consultant (Guided Self-Assessment).
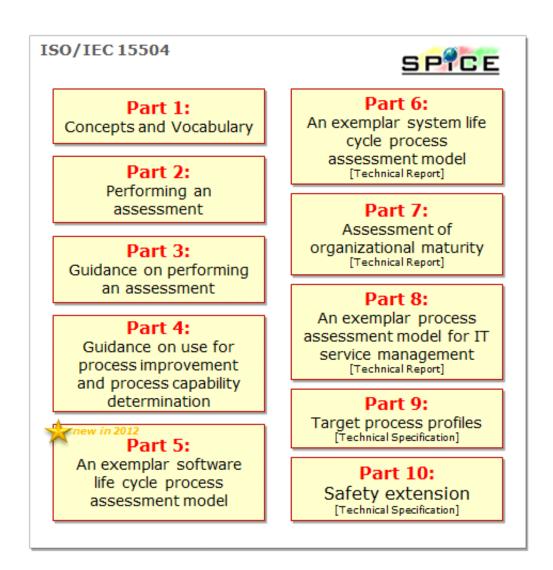
You can also perform externally assistet assessments and have the rating done by trained, experienced assessors. [Contact](#) us, we'll be happy to advise you about the ideal way how to perform an assessment!

About ISO 33000/15504 and SPiCE:

ISO/IEC IS 33000 (former 15504) is an International Standard to assess software development processes.

At the beginning ISO 15504 was named SPiCE which is just an abbreviation for Software Process Improvement & Capability dEtermination.
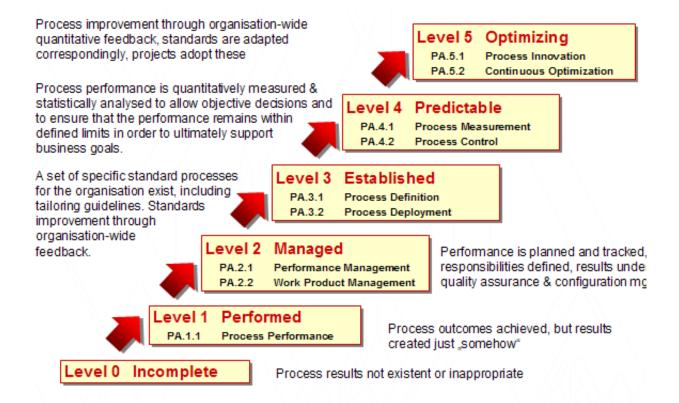
The standard contained ten parts. Part 1 to 5 are the normative parts; 6 to 10 are enhancements which extend the useability and adoptability of the process capability concepts to new process areas and new business branches:

ISO/IEC 15504

SPiCE

Part 1:
Concepts and Vocabulary

Part 2:
Performing an assessment

Part 3:
Guidance on performing an assessment

Part 4:
Guidance on use for process improvement and process capability determination

new in 2012
Part 5:
An exemplar software life cycle process assessment model

Part 6:
An exemplar system life cycle process assessment model
[Technical Report]

Part 7:
Assessment of organizational maturity
[Technical Report]

Part 8:
An exemplar process assessment model for IT service management
[Technical Report]

Part 9:
Target process profiles
[Technical Specification]

Part 10:
Safety extension
[Technical Specification]

For the automotive industry and its suppliers, a special reference- and assessment model was created: AutomotiveSPiCE. AutomotiveSPiCE was an initiative of the Automotive Special Interest Group (SIG), a joint special interest group of The SPICE User Group and The Procurement Forum. This tool, SPiCE 1-2-1 for Automotive covers the AutomotiveSPiCE assessment model - which is fine for systems and software development - and additionally it contains the reference modell for mechanical engineering. Additional information about AutomotiveSPiCE can be found at www.AutomotiveSPiCE.com
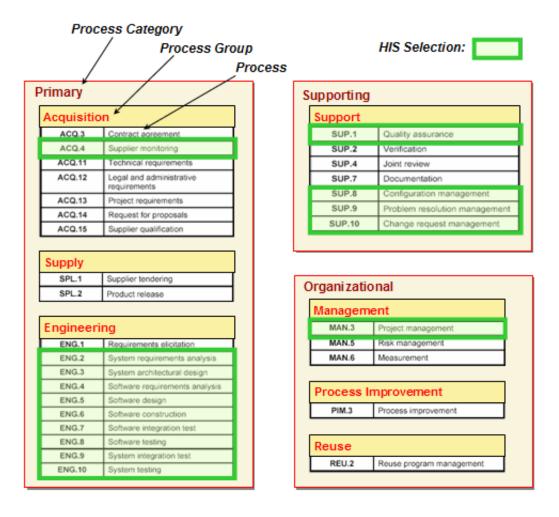
Well, the whole concept of SPiCE is based upon a reference model with processes having a defined capability dimension. Of course, the development of SPiCE was influenced by the CMM (Capability Maturity Model). Concerning this topic, please have a look at .

So SPiCE has defined the following Capability Dimension:

Process improvement through organisation-wide quantitative feedback, standards are adapted correspondingly, projects adopt these

Level 5 Optimizing
PA.5.1 Process Innovation
PA.5.2 Continuous Optimization

Process performance is quantitatively measured & statistically analysed to allow objective decisions and to ensure that the performance remains within defined limits in order to ultimately support business goals.

Level 4 Predictable
PA.4.1 Process Measurement
PA.4.2 Process Control

A set of specific standard processes for the organisation exist, including tailoring guidelines. Standards improvement through organisation-wide feedback.

Level 3 Established
PA.3.1 Process Definition
PA.3.2 Process Deployment

Level 2 Managed
PA.2.1 Performance Management
PA.2.2 Work Product Management

Performance is planned and tracked, responsibilities defined, results under quality assurance & configuration mg

Level 1 Performed
PA.1.1 Process Performance

Process outcomes achieved, but results created just „somehow"

Level 0 Incomplete   Process results not existent or inappropriate

The underlying concept of SPiCE uses these attributes (PA is just short for Process Attribute) - which form the capability dimension of the model - in the same way for all processes. The advantage is, that once you understood the PAs, you not only can use them for processes part of the reference modell, but also for processes from other process reference modells or especially for your own business processes. This generic charcterization gives you an outline for the journey of process improvement - no matter which sort of proceses you have.

The current version of AutomotiveSPiCE contains the following 32 processes (there are 48 at SPiCE International Standard):

Process Category
Process Group
Process

HIS Selection: ☐

Primary

Acquisition

ACQ.3	Contract agreement
ACQ.4	Supplier monitoring
ACQ.11	Technical requirements
ACQ.12	Legal and administrative requirements
ACQ.13	Project requirements
ACQ.14	Request for proposals
ACQ.15	Supplier qualification

Supply

| SPL.1 | Supplier tendering |
| SPL.2 | Product release |

Engineering

ENG.1	Requirements elicitation
ENG.2	System requirements analysis
ENG.3	System architectural design
ENG.4	Software requirements analysis
ENG.5	Software design
ENG.6	Software construction
ENG.7	Software integration test
ENG.8	Software testing
ENG.9	System integration test
ENG.10	System testing

Supporting

Support

SUP.1	Quality assurance
SUP.2	Verification
SUP.4	Joint review
SUP.7	Documentation
SUP.8	Configuration management
SUP.9	Problem resolution management
SUP.10	Change request management

Organizational

Management

MAN.3	Project management
MAN.5	Risk management
MAN.6	Measurement

Process Improvement

| PIM.3 | Process improvement |

Reuse

| REU.2 | Reuse program management |

These processes are organized in eight process groups ACQ, SPL, SYS, SWE, SUP, MAN, PIM, and REU. The assignment is just for outlining purpose and has no further influence on the contents.

To align this reference model to ISO 12207, the process groups are assigned to three categories: Primary Life-Cycle Processes, Supporting Life-Cycle Processes and Organisational Life-Cycle Processes.

So far so good. Lots of additional information can be found at the links.