

# *Maturity model*

Maturity is a measurement of the ability of an organization for continuous improvement in a particular discipline (as defined in [O-ISM3](#)).<sup>[1]</sup> The higher the maturity, the higher will be the chances that incidents or errors will lead to improvements either in the quality or in the use of the resources of the discipline as implemented by the organization.

Most **maturity models** assess qualitatively people/culture, processes/structures, and objects/technology.<sup>[2]</sup>

Two approaches for implementing maturity models exist. With a top-down approach, such as proposed by Becker et al.,<sup>[3]</sup> a fixed number of maturity stages or levels is specified first and further corroborated with characteristics (typically in form of specific assessment items) that support the initial assumptions about how maturity evolves. When using a bottom-up approach, such as suggested by Lahrmann et al.,<sup>[4]</sup> distinct characteristics or assessment items are determined first and clustered in a second step into maturity levels to induce a more general view of the different steps of maturity evolution. Topics that are covered in maturity models include:

## Analytics

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- [Big data maturity model](#)

## Cybersecurity

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- [Cybersecurity Maturity Model Certification](#) – **CMMC**

# Enterprise architecture

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- [Enterprise Architecture Capability Maturity Model \(ACMM\)](#)
- [Dynamic Architecture Maturity Matrix \(DyAMM\)](#)

# Human resources

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- [People Capability Maturity Model \(PCMM\)](#) (for the management of human assets)

# Information security management

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O-ISM3<sup>[5]</sup>

# Information technology

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- [CERT Resilience Management Model](#) (capability model focused on operational resilience, i.e., cybersecurity, service continuity, IT operations)
- [Capability Maturity Model](#) (CMM, focusing on software development)
- [Open Source Maturity Model](#) (for open-source software development)
- [Service Integration Maturity Model](#) (for SOA)
- [Modeling Maturity Levels](#) (for software specification)
- [Enterprise IT Performance Maturity Model](#)
- [Software Product Management Maturity Model](#)
- [The SharePoint Maturity Model](#)
- [Application Performance Management Maturity Model](#)
- [Darwin Information Typing Architecture \(DITA\) Maturity Model](#)
- [DevOps maturity model](#)
- [ITIL Maturity Model](#)
- [Richardson Maturity Model](#) (for HTTP-based web services)
- [ISO/IEC 15504](#) (for Process Maturity)

- [MD3M<sup>\[6\]</sup>](#) (for Master Data Management)

## Knowledge management

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- [The Knowledge Navigator Model<sup>\[7\]</sup> <sup>\[8\]</sup>](#)

## Learning

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- [E-learning Maturity Model \(EMM\)](#)
- [Mobile Learning Maturity Model](#)
- [Learning & Performance Maturity Model](#)

## Marketing

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- [Organic Search Marketing Maturity Model](#)

## PLM

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- [PLM Maturity Model](#)

## Project management

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- [OPM3](#) (Organisational Project Management Maturity Model)
- [P3M3](#) (Portfolio, Programme and Project Management Maturity Model)

## Quality management

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- [Quality Management Maturity Grid \(QMMG\)](#)
- [Quality Maturity Model](#)
- [4.0 Quality Maturity Assessment Model](#)

## Security assurance

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- [Building Security In Maturity Model \(BSIMM\)](#)
- [CYBERSECURITY CAPABILITY MATURITY MODEL \(C2M2\)](#)

- [Systems Security Engineering Capability Maturity Model \(SSE-CMM\)](#)
- [Software Assurance Maturity Model \(openSAMM\)](#)

## Sustainability

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- [Sustainability maturity models](#)

The maturity model concept has been applied to [city planning](#) practices, such as planning to encourage participation in [cycling](#).<sup>[9]</sup>

## Testing

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- [Testing Maturity Model \(TMM\)](#) (assessing test processes in an organization)
- [Test Maturity Model integration \(TMMi\)](#)

## Universal

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- [Capability Maturity Model Integration \(CMMI\)](#)
- [Performance Management Maturity Model](#)
- [Virtual Team Maturity Model \(VTMM\)](#)

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