Acronyms

additive manufacturing (AM)
advanced persistent threats (APT)
agile software development (ASD)
air traffic controller (ATCO)
Akaike information criterion (AIC)
American Iron and Steel Institute (AISI)
American Society of Testing and Materials (ASTM)
analysis of contagious debt (AnaConDebt)
analysis of variance (ANOVA)
application program interface (API)
architectural technical debt (ATD)
architecture significant requirements (ASR)
architecture trade-off and analysis method (ATAM)
artificial intelligence (AI)
artificial neural network (ANN)
augmented reality (AR)
automatic teller machine (ATM)
automation robotics and machines (ARM)
autoregressive integrated moving average (ARIMA)
Bayesian network (BN)
big data (BD)
bovine serum albumin (BSA)
business intelligence (BI)
capability maturity model integration (CMMI)
chemical process industries (CPI)
collision avoidance systems (CAS)
communication technologies (CT)
complex, adaptive systems-of-systems (CASoS)
complex, large-scale, interconnected, open system (CLIOS)
compound annual growth rate (CAGR)
computed tomography (CT)
computer aided design (CAD)
computer aided manufacturing (CAM)
computer numerical control (CNC)
computer software component (CSC)
computer software configuration item (CSCI)
computer-supported cooperative work (CSCW)
condition-based maintenance (CBM)
controlled drug release (CDR)
corrective maintenance (CM)
cross-industry standard process for data mining (CRISP-DM)
customers, actors, transformation, worldview, owners, and environment (CATWOE)
cyber-physical system (CPS)
cyclic dependency (CD)
data analytics (DA)
database management systems (DBMS)
Defense Advanced Research Projects Agency (DARPA)
Department of Homeland Security (DHS)
Department of innovative technologies (DTI)
design evaluation process outline (DEPO)
design for manufacturing and assembly (DFM/A)
design for variability (DFV)
design of experiments (DOE)
design structure matrix (DSM)
digital human model (DHM)
direct energy deposition (DED)
directed acyclic graph (DAG)
document term matrix (DTM)
dynamic data warping (DTW)
dynamic linked library (DLL)
dynamic principal component analysis (DPCA)
empirical mode decomposition (EMD)
European Foundation for Quality Management (EFQM)
European Innovation Scoreboard (EIC)
European Union (EU)
event tree analysis (ETA)
exploratory factor analysis (EFA)
factories of the future (FoF)
failure mode and effect analysis (FMEA)
fault tree analysis (FTA)
Federal Bureau of Investigation (FBI)
Federal Emergency Management Agency (FEMA)
Federal Energy Regulatory Commission (FERC)
finite element analysis (FEA)
first-order reliability method (FORM)
field programmable gate array (FPGA)
flexible contract (FC)
flight management system (FMS)
functionally graded material (FGM)
genetic algorithm (GA)
graphical user interface (GUI)
ground collision avoidance system (GCAS)
Guide to the Expression of Uncertainty in Measurement (GUM)
hazard and operability (HAZOP)
high level performance function (HLPF)
hub-like dependency (HL)
human factors (HF)
human factors and ergonomics (HFE)
human factors engineering (HFE)
human–machine collaboration (HMC)
human-centered design (HCD)
human–computer interaction (HCI)
human-in-the-loop simulation (HITLS)
human–machine interaction (HMI)
human–machine interaction engineering (HMIE)
human–systems integration (HSI)
improving critical infrastructure security (ICIC)
industrial control system (ICS)
industrial process monitoring (IPM)
industrial revolution (IR)
industry competence and maturity for advanced manufacturing (IMAM)
information quality (InfoQ)
institute of systems and technologies for sustainable production (ISTePS)
information technology (IT)
initial graphics exchange specification (IGES)
innovation diffusion theory (IDT)
intellectual property rights (IPR)
intellectual property (IP)
International Atomic Energy Agency (IAEA)
International Council on Systems Engineering (INCOSE)
International Organization for Standardization (ISO)
Internet of Things (IoT)
ionic strength (IS)
istituto dalle molle di studi sull’intelligenza artificiale (IDSIA)
<table>
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<th>Acronyms</th>
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<tr>
<td>key performance indicator (KPI)</td>
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<tr>
<td>knowledge based system (KBS)</td>
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<td>knowledge, information, and data (KID)</td>
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<td>Kullback–Leibler (K–L)</td>
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<td>Laboratory for Intelligent Systems in Process Engineering (LISPE)</td>
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<td>life cycle cost (LCC)</td>
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<td>lines of code (LOC)</td>
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<td>maintainability index (MI)</td>
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<td>Markovian decision process (MDP)</td>
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<td>maximum percentage relative information exploitation (PRIE)</td>
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<td>mean squared error (MSE)</td>
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<td>mean time to failure (MTTF)</td>
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<td>minimum percentage relative information gain (PRIG)</td>
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<td>mission assurance (MA)</td>
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<td>Owako Working Posture Analysis System (OWAS)</td>
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<td>partial differential equation (PDE)</td>
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<td>partially observable Markov decision process (POMDP)</td>
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<td>particle size (PS)</td>
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pattern-oriented software architecture (POSA)
perceived ease-of-use (PEOU)
physical protection system (PPS)
powder bed fusion (PBF)
pressure operated release valve (PORV)
preventive maintenance (PM)
principal component analysis (PCA)
printed circuit board (PCB)
probabilistic risk assessment (PRA)
process analytical technology (PAT)
process systems engineering (PSE)
product use information (PUI)
prognostics and health monitoring (PHM)
project management body of knowledge (PMBOK)
public–private partnership (PPP)
quality by design (QbD)
risk attack detection, isolation and characterization system (RADICS)
risk casting (RC)
risk manufacturing (RM)
risk prototyping (RP)
risk tooling (RT)
reliability, availability, maintainability, safety (RAMS)
reliability-centered maintenance (RCM)
remote terminal unit (RTU)
representational state transfer (REST)
resource description framework (RDF)
responsibility, accountability, consulting, informed (RACI)
robust design (RD)
risk cause analysis (RCA)
risk mean squared error (RMSE)
second-order reliability methods (SORM)
secure emergency network (SEN)
self-organized criticality (SOC)
Shiraryev–Roberts (SR)
single layer (SL)
single photon and positron emission computerized tomography (SPET/PET)
single track (SD)
singular value decomposition (SVD)
software engineering method and theory (SEMAT)
solder paste deposit (SPD)
standard for the exchange of product model data (STEP)
standard triangle language (STL)
statistical process control (SPC)
Acronyms

strengths, weaknesses, opportunities, threats (SWOT)
structurational model of technology (SMOT)
supervisory control and data acquisition (SCADA)
supply chain management (SCM)
Swiss national science foundation (SNF)
system engineering body of knowledge (SEBoK)
system-of-systems (SoS)
systems approach to safety engineering (STAMP)
Systems-Theoretic Accident Model and Processes (STAMP)
systems engineering (SE)
systems-theoretic framework for security (STFS)
standard triangle language (STL)
strenghts, weaknesses, opportunities, threats (SWOT)
systems-theoretic process analysis (STPA)
tangible interactive system (TIS)
targeted Bayesian network learning (TBNL)
technical debt (TD)
technology acceptance model (TAM)
technology, organizations and people (TOP)
technology-centered systems engineering (TCSE)
theory of reasoned action (TRA)
time to failure (TTF)
traffic alert and collision avoidance system (TCAS)
transdisciplinary engineering research (TDER)
transdisciplinary research (TDR)
transmembrane pressures (TMP)
unified theory of acceptance and use of technology (UTAUT)
United Kingdom (UK)
United States (US)
university of applied sciences and arts of southern Switzerland (SUPSI)
unstable dependency (UD)
user interface (UI)
virtual private networks (VPN)
volume of fluid (VOF)
wavelet texture analysis (WTA)
web ontology language (OWL)