

# ISO/IEC 30147:2021-05 (E)

## Internet of things (IoT) - Integration of IoT trustworthiness activities in ISO/IEC/IEEE 15288 system engineering processes

---

Contents	Page
FOREWORD.....	4
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions.....	6
4 Abbreviated terms.....	9
5 IoT systems/services and IoT trustworthiness.....	9
5.1 Characteristics specific to IoT systems and services.....	9
5.2 IoT trustworthiness.....	11
6 Processes for realizing IoT trustworthiness.....	12
6.1 General.....	12
6.2 Agreement processes.....	12
6.2.1 Acquisition process.....	12
6.2.2 Supply process.....	13
6.3 Organizational project-enabling processes.....	13
6.3.1 Life cycle model management process.....	13
6.3.2 Infrastructure management process.....	13
6.3.3 Portfolio management process.....	13
6.3.4 Human resource management process.....	13
6.3.5 Quality management process.....	13
6.3.6 Knowledge management process.....	14
6.4 Technical management processes.....	14
6.4.1 Project planning process.....	14
6.4.2 Project assessment and control process.....	14
6.4.3 Decision management process.....	15
6.4.4 Risk management process.....	15
6.4.5 Configuration management process.....	16
6.4.6 Information management process.....	16
6.4.7 Measurement process.....	16
6.4.8 Quality assurance process.....	17
6.5 Technical processes.....	17
6.5.1 Business or mission analysis process.....	17
6.5.2 Stakeholder needs and requirements definition process.....	17
6.5.3 System requirements definition process.....	18
6.5.4 Architecture definition process.....	19
6.5.5 Design definition process.....	19
6.5.6 System analysis process.....	20
6.5.7 Implementation process.....	20
6.5.8 Integration process.....	20
6.5.9 Verification process.....	21

6.5.10	Transition process .....	22
6.5.11	Validation process .....	22
6.5.12	Operation process .....	23
6.5.13	Maintenance process .....	24
6.5.14	Disposal process .....	24
Annex A (informative)	Examples of risks specific to IoT systems.....	25
A.1	General.....	25
A.2	Example 1: Security risk .....	25
A.3	Example 2: Reliability risk .....	25
A.4	Example 3: Safety risk .....	25
A.5	Example 4: Privacy risk.....	26
A.6	Example 5: Resilience risk .....	26
A.7	Example 6: Risk arising from interconnected IoT trustworthiness factors.....	26
Annex B (informative)	Overview of process and its application.....	27
B.1	Overview of approach toward process for IoT trustworthiness .....	27
B.2	Application of process to enhance IoT trustworthiness .....	29
Bibliography.....		30
Figure 1 – An IoT system, a system of systems .....		10
Table B.1 – Relations between typical characteristics of IoT systems and process bases.....		29