



# System Requirement Viewpoint

Domain: [Functional](#) Aspect: [Requirement](#)

## Example

| #  | △ Id          | Name                              | Text   | Refining System Function                   | Derived from Stakeholder Requirement        |
|----|---------------|-----------------------------------|--|--|---|
| 1  |               | Fire Detection                    |  |  |   |
| 2  | SYS-REQ-001   | 24/7 Forest Fire Recognition      | The FFDS system shall allow a forest fire recognition day & night.   |  |   |
| 3  | SYS-REQ-002   | Forest Fire Detection             | The FFDS system shall allow a forest fire detection acquiring data collected by terrestrial-based and aerial-based systems.  | Request sensor data (context FFDS Context) | CPBLTY-11 Fire Detection                    |
| 4  | SYS-REQ-002.1 | Wireless Sensor Network           | <del>The FFDS system shall allow temperature, humidity, and CO environment data harvesting using a terrestrial-based wireless sensor network.</del>  |  |   |
| 6  | SYS-REQ-002.2 | Smoke and Fire Detection Software | The FFDS system shall allow querying and analysis of the provided WSN sensor data using a smoke and fire detection software. When a forest fire is detected the smoke and fire detection software shall be able to raise an alarm. |  |   |
| 7  |               | Fire Monitoring                   |  |  |   |
| 8  | SYS-REQ-003   | Forest Fire Evolution Monitoring  | In the event of a forest fire the FFDS system shall allow a specific area of interest observation interacting with aerial-based systems.   | Analyze FF data (context FFDS Context)     | CPBLTY-12 Fire Monitoring                   |
| 9  |               | Fire Prediction                   |  |  |   |
| 10 | SYS-REQ-004   | Forest Fire Spread Prediction     | In the event of a forest fire the FFDS system shall allow a fire spread prediction using empirical and physical fire spread models.  | Analyze FF data (context FFDS Context)     | CPBLTY-17 Propagation Estimation Capability |
| 11 |               | Fire Assessment                   |  |  |   |
| 12 | SYS-REQ-005   | Forest Fire Damage Assessment     | For evaluating the impacts of forest fire in landscape and biodiversity the FFDS system shall allow the determination of burned and fire affected areas using digital image processing of pre- and post-fire images.               |  |   |

## Purpose

The System Requirement Viewpoint specifies function(s), non-functional property(s), or constraint(s) of the system. System Requirement(s) are captured, the interrelationships between functional and non-functional requirement(s) on the same level of abstraction and the traceability to Stakeholder Requirement(s) are depicted.

## Applicability

The System Requirement Viewpoint supports the "System Requirements Definition Process" activities of the INCOSE SYSTEMS ENGINEERING HANDBOOK 2015 [§4.3] and contributes to the system requirements verification and traceability matrix (RVTM).

## Stakeholder

- [Customer](#)
- [Project Manager](#)

- [Regulation Authority](#)
- [Safety Expert](#)
- [Security Expert](#)
- [System Architect](#)

## Concern

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- What are the exchange requirements imposed on the system?
- What are the functional requirements imposed on the system?
- What are the interface requirements imposed on the system?
- What are the non-functional requirements imposed on the system?
- What are the requirements of environmental conditions imposed on the system?
- What is the range of acceptable system performance, i.e. the critical, top-level performance requirements derived from the operational needs?
- Which stakeholder requirements are addressed by system requirements?

## Presentation

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A System Requirement Table (RVTM) featuring

- unique requirement ID, text and attributes
- traceability reference to upstream model elements and requirements
- traceability reference to depended requirement(s) on the same abstraction level

## Profile Model Reference

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- [SAF\\_SFV06a\\_View](#)
- [SAF\\_StakeholderRequirement](#)
- [SAF\\_SystemFunctionalRequirement](#)
- [SAF\\_SystemFunctionalRequirementConstraint](#)
- [SAF\\_SystemNonFunctionalRequirement](#)
- [SAF\\_SystemRequirement](#)
- [SAF\\_SystemRequirementDerivation](#)
- [SAF\\_SystemRequirementDerivation](#)

## Input from other Viewpoints

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### Required Viewpoints

- [Stakeholder Requirement Viewpoint](#)

### Recommended Viewpoints

- Operational Story Viewpoint
- Operational Context Exchange Viewpoint
- Operational Capability Viewpoint
- Operational Process Viewpoint
- Operational Interaction Viewpoint
- Operational Capability Traceability Viewpoint
- Operational Process Traceability Viewpoint