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Specification of Requirements for Smart Contracts’ Architecture and Security

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***ETSI***

650 Route des Lucioles

F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C

Association à but non lucratif enregistrée à la

Sous-préfecture de Grasse (06) N° 7803/88

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# Foreword

This Group Specification (GS) has been produced by ETSI Industry Specification Group (<short ISGname>).

# Modal verbs terminology

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# Executive summary

This Work Item discusses the challenges and requirements of viable deployment of smart contracts for industries. The challenges due to inherent properties of smart contracts, and also due to external and internal interaction are discussed and their solutions are presented.

# Introduction

This work item extends the discussion of challenges and requirements for the successful adoption of smart contracts. This document discusses the current challenges of smart contracts' deployment and outlines architecture requirements that can mitigate those problems and enable error-free and efficient smart contracts. Moreover, this document also oversees smart contracts' security aspects and explains internal and external threats to a smart contract and presents possible mitigation techniques for them.

# Scope

This work item establishes the architectural and functional specifications of smart contracts. Additionally, highlight the potential threats and specify the solutions to mitigate them. Requirements on the use of technology for smart contracts, governance, purpose, motivation and security.

# References

## Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non‑specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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[i.2] etc.

# Definition of terms, symbols and abbreviations

## Terms

For the purposes of the present document, the [following] terms [given in ... and the following] apply:

## Symbols

For the purposes of the present document, the [following] symbols [given in ... and the following] apply:

## Abbreviations

For the purposes of the present document, the [following] abbreviations [given in ... and the following] apply:

# Define the problems with Smart Contracts

## Requirements

## Designing a smart contract

## Following Life Cycle

## Auditing during designing

To overcome the problems with inherent properties

# Architecture Requirements (Solutions)

Languages etc.

## Ownership

## Architecture

# Functional Requirements

# Internal Data Sources

# Smart Contracts

# Oracles (should be externals –we should use another term)

# Other data sources

# External Data Sources

# Smart Contracts

# Oracles

# Other data sources

# Governance

# Single-Party Governance

# Multi-party governance

# Threats and Security

## Threats

## Internal Threats

Such as delays in transaction confirmation???

## External Threats

Faulty data entered in a smart contract?

Too many transactions – may not be able to process by a smart contract?

## Mitigation Strategies

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Title of annex

Annex B (normative or informative):
Title of annex

# B.1 First clause of the annex

## B.1.1 First subdivided clause of the annex

Annex (informative):
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