



**NSAI**  
Standards

Irish Standard  
I.S. EN 62381:2012

Automation systems in the process industry - Factory acceptance test (FAT), site acceptance test (SAT) and site integration test (SIT) (IEC 62381:2012 (EQV))

## I.S. EN 62381:2012

*Incorporating amendments/corrigenda issued since publication:*

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S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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<p><b>NSAI</b> 1 Swift Square, Northwood, Santry Dublin 9</p>	<p>T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie  W NSAI.ie</p>	<p><b>Sales:</b> T +353 1 857 6730 F +353 1 857 6729 W standards.ie</p>
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English version

**Automation systems in the process industry -  
Factory acceptance test (FAT), site acceptance test (SAT) and site  
integration test (SIT)  
(IEC 62381:2012)**

Systèmes d'automatisation pour les  
procédés industriels -  
Essais d'acceptation en usine (FAT),  
essais d'acceptation sur site (SAT) et  
essais d'intégration sur site (SIT)  
(CEI 62381:2012)

Automatisierungssysteme in der  
verfahrenstechnischen Industrie -  
Werksabnahme (FAT), Abnahme der  
installierten Anlage (SAT) und  
Integrationstest (SIT)  
(IEC 62381:2012)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

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European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

### **Foreword**

The text of document 65E/222/FDIS, future edition 2 of IEC 62381, prepared by SC 65E, "Devices and integration in enterprise systems", of IEC TC 65, "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62381:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-12-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-03-28

This document supersedes EN 62381:2007.

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The text of the International Standard IEC 62381:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

- |                  |      |                                |
|------------------|------|--------------------------------|
| IEC 61331 series | NOTE | Harmonized in EN 61331 series. |
| IEC 62337        | NOTE | Harmonized as EN 62337.        |

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**AUTOMATION SYSTEMS IN THE PROCESS INDUSTRY –  
FACTORY ACCEPTANCE TEST (FAT), SITE ACCEPTANCE TEST (SAT),  
AND SITE INTEGRATION TEST (SIT)**

FOREWORD

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International Standard IEC 62381 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition published in 2006. This edition constitutes a technical revision.

The main changes with respect to the previous edition are listed below:

- The definition of the documents mentioned in this standard is in accordance with future IEC 62708<sup>1</sup>.

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<sup>1</sup> To be published.

The text of this standard is based on the following documents:

FDIS	Report on voting
65E/222/FDIS	65E/227/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

## INTRODUCTION

There is an increasing trend in the process industry to shorten the time period for project execution. At the same time, the complexity of automation systems is being increased due to the number of connected systems and the use of new technologies, for example, fieldbus systems.

Experience has shown that the owner, the contractor and the vendor have long and extensive discussions to unambiguously lay down the scope of activities and responsibilities in order to achieve a timely delivery and acceptance of automation systems.

This standard is intended to lead to an improvement and acceleration of the negotiation phase and to a mutual understanding about the scope of activities of each party

The annexes of this standard contain forms which may be used in the test procedures. Buyers of this standard may copy these forms for their own purposes only in the required amount.



**AUTOMATION SYSTEMS IN THE PROCESS INDUSTRY –  
FACTORY ACCEPTANCE TEST (FAT), SITE ACCEPTANCE TEST (SAT),  
AND SITE INTEGRATION TEST (SIT)**

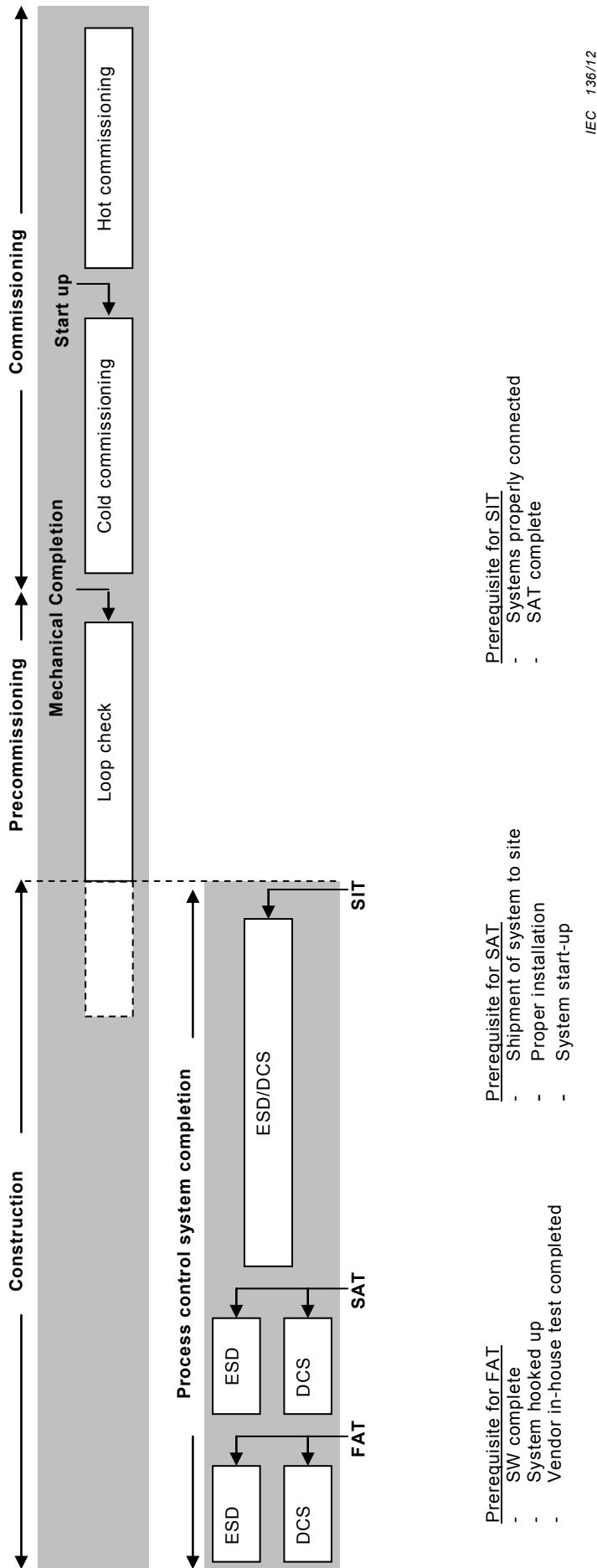
**1 Scope**

This International Standard defines procedures and specifications for the Factory Acceptance Test (FAT), the Site Acceptance Test (SAT), and the Site Integration Test (SIT). These tests are carried out to prove that the automation system is in accordance with the specification.

Engineering and manufacturing activities prior to these tests are not covered by this standard.

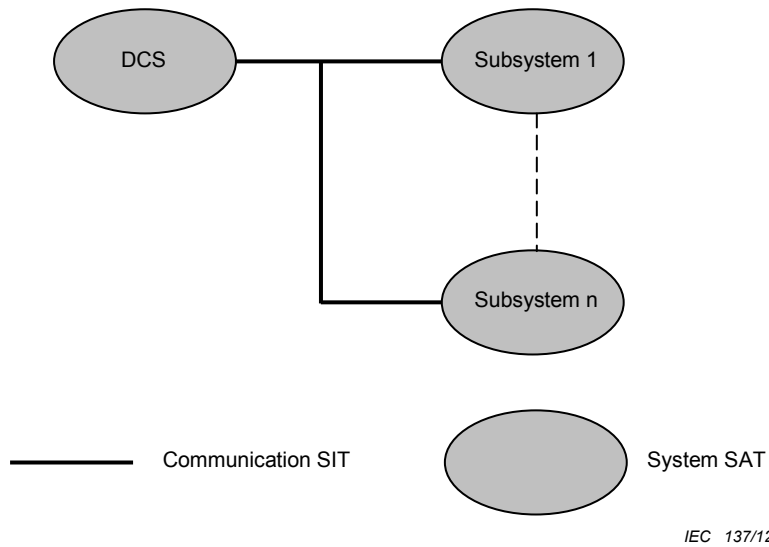
For application in the pharmaceutical or other highly specialized industries, additional guidelines (for example, Good Automated Manufacturing Practice (GAMP)), definitions and stipulations should apply in accordance with existing standards, for example, for GMP Compliance 21 CFR (FDA) and the Standard Operating Procedure of the European Medicines Agency (SOP/INSP/2003).

The description of activities given in this standard can be taken as a guideline and adapted to the specific requirements of the process, plant or equipment. A typical sequence of activities and events is shown in Figure 1, and their relationship are shown in Figures 2 and Figure 3.

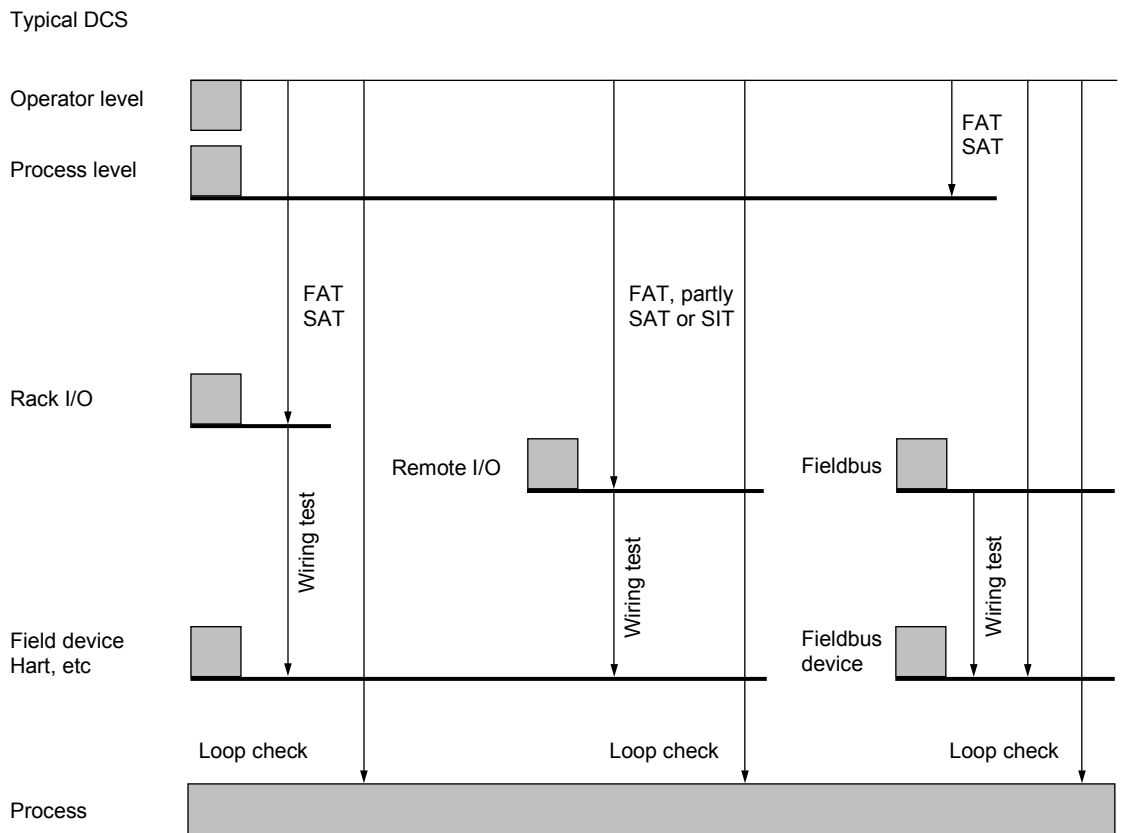


NOTE The loop check can actually be started during the construction phase once the required infrastructure has been installed.

**Figure 1 – Diagram depicting typical sequence of events for FAT, SAT and SIT with respect to the project milestones**



**Figure 2 – Diagram depicting the relationship for the SAT and SIT between the DCS and subsystems**



**Figure 3 – Diagram depicting the relationship between the FAT, SAT and SIT with the relevant plant levels**

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