

# ISITEP

## D5.6.1 - USER INTERFACE AND BUSINESS LOGIC MANAGER TEST RESULTS

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### **Publishable extended abstract**

In this deliverable, the results of the test set used for assessing the effectiveness of the User Interface and business logic manager for the new enhanced terminal in the ISITEP project are reported. In the ISITEP framework, the User Interface should be as simple as effective. To this aim, in D5.6.2 the User Interface and Business Logic Manager Engine have been defined. In this document, the results of the tests performed for evaluating the compliance with the requirements established in the design phase are reported.

## Abbreviations

For the purposes of the present document, the following abbreviations apply:

Acronym	Definition
API	Application Program Interface
CM	Communication Manager
DoW	Description of Work
EME	Enhanced Message Exchange
GUI	Graphic User Interface
HMI	Human Machine Interface
PIN	Personal Identification Number
SM	Security Manager
SST	Semantic Syntactic Translator
TETRA	TErrestrial Trunked Radio
UI	User Interface
WFM	WorkFlow Manager

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## 1. INTRODUCTION

The aim of WP5.6 is to define the User Interface and Business Logic Manager to allow an effective and seamless interoperability between TETRA and TETRAPOL operators.

The User Interface and Business Logic Manager shall:

- manage the device logic;
- interface the Applications/Services, the Workflow Manager, the Security Manager and the Semantic/Syntactic Translator;
- adapt the user interface between TETRA and TETRAPOL systems.

In this document, the test set used for assessing the effectiveness of the User interface and business logic manager for the new enhanced terminals in the ISITEP project is described. The results of the performed tests are also reported. The User interface and business logic manager engine test have been designed by following the requirements defined in D.5.6.2.

In particular, a high level analysis of User Interface and Business Logic manager is performed.

In order to have a comprehensive understanding of the document, it is worth specifying that:

- TETRA and TETRAPOL apps are designed and developed by the manufacturers (FNM and ADS FR). In this framework, the HMI will recall the appropriate interface according to the available/selected physical layer in that moment. The interfaces of the individual applications are defined in D5.6.2.
- The WFM is defined in D5.6.2 (par. 7.5) and the test results are reported in D5.4.1
- The EME is defined in D6.4.2 (par. 7.4) and the test results are reported in D6.4.1
- The SST is defined in D5.5.2 and the test results are reported in D5.5.2.

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## **2. TESTING ENVIRONMENT**

### **2.1 Test Environment Architecture**

The test reported in this document have been performed on two terminals: a Galaxy S4 (Android 5.0.1, API 21) and a Nexus 4 (Android 5.1.1, API 22).

The tests involving a communication with other applications of the ISITEP framework, through Android Broadcast Bus, and that were not available were simulated. In more details, the application behavior has been simulated through a test Application (sending expected intent on the broadcast bus) and a receiver (showing the expected response).



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### 3. TEST CASE

#### 3.1 Test ISITEP Human Machine Interface

##### 3.1.1 ISITEP\_HMI\_1 – Launch (end-user not logged in)

ISITEP HMI	
ISITEP_HMI_1	
Launch (end-user not logged in)	
Objective(s)	
Access to ISITEP Apps	
Pre-Conditions	
<ul style="list-style-type: none"> <li>○ The End-user pin has been set by the Administrator through the Security Manager GUI</li> <li>○ The End-User is not logged in</li> </ul>	
Test procedure	
Action	Expected Result
1 Tap on HMI icon	The Security Manager End-User Login interface is opened (SM_SERV_2 test case)  The HMI remains in a stand-by state until End-User enters a correct PIN or cancels login operation
2 End-user enters a correct PIN	HMI receives “authSuccessful” message through the bus, sent by SM.  The list of apps, belonging to the category “eu.isitep.APP”, is opened. To be shown in the HMI list of ISITEP App an Added-Value App must assign to its main activity the category “eu.isitep.APP”
3 End-user taps on “Cancel” button	The HMI receives “authCancel” message from SM and the UI is closed.

### 3.1.2 ISITEP\_HMI\_2 – Launch (end-user is logged in)

<b>ISITEP HMI</b>	
<b>ISITEP_HMI_2</b>	
<b>Launch (end-user is logged in)</b>	
<b>Objective(s)</b>	
Gaining access to ISITEP Apps	
<b>Pre-Conditions</b>	
<ul style="list-style-type: none"> <li>○ The End-User is logged in</li> </ul>	
<b>Test procedure</b>	
<b>Action</b>	<b>Expected Result</b>
1   Tap on HMI icon	List of apps, belonging to the category "eu.isitep.APP", is opened

### 3.1.3 ISITEP\_HMI\_3 – Setting ISITEP Preference

<b>ISITEP HMI</b>	
<b>ISITEP_HMI_3 Setting ISITEP Preferences</b>	
<b>Objective(s)</b>	
Set and save ISITEP system preferences	
<b>Pre-Conditions</b>	
<ul style="list-style-type: none"> <li>○ The End-User is logged in</li> </ul>	
<b>Test procedure</b>	
<b>Action</b>	<b>Expected Result</b>
1   Tap on Option Menu	A list of preference type is displayed
2   Tap on Language preference	A choice list of possible languages is shown
3   Tap on Communication preference	Preference input frame of ISITEP main window is opened

### 3.1.4 ISITEP\_HMI\_4 – HMI receives notification about network availability

<b>Security Manager Service</b>	
<b>ISITEP_HMI_4 Security Manager receives notification about network availability</b>	
<b>Objective(s)</b>	
HMI updates network status based on network availability	
<b>Pre-Conditions</b>	
<ul style="list-style-type: none"> <li>○ End-User is logged in</li> </ul>	
<b>Test procedure</b>	
<b>Action</b>	<b>Expected Result</b>
1 A “commServiceAvailIndication” message is sent on the bus by CM.	The HMI receives “commServiceAvailIndication” message from bus and it updates the network status.

### 3.1.5 ISITEP\_HMI\_5 – Open Communication App with network available

<b>ISITEP HMI</b>		
<b>ISITEP_HMI_5 Open ISITEP App</b>		
<b>Objective(s)</b>		
Open a ISITEP App		
<b>Pre-Conditions</b>		
<ul style="list-style-type: none"> <li>○ The End-User is logged in</li> <li>○ Network is available</li> </ul>		
<b>Test procedure</b>		
<b>Action</b>		<b>Expected Result</b>
1	Tap on one ISITEP application	The application is launched passing in intent the language choice that has been stored in HMI preference list.

### 3.1.6 ISITEP\_HMI\_6 – Open ISITEP App with network not available

<b>ISITEP HMI</b>		
<b>ISITEP_HMI_6 Open ISITEP App</b>		
<b>Objective(s)</b>		
Open a ISITEP App		
<b>Pre-Conditions</b>		
<ul style="list-style-type: none"> <li>○ The End-User is logged in</li> <li>○ Network is not available</li> </ul>		
<b>Test procedure</b>		
<b>Action</b>		<b>Expected Result</b>
1	Tap on one of ISITEP application	“Network is not available” message is shown.

### 3.1.7 ISITEP\_HMI\_7 – Logout End-User

Security Manager GUI	
ISITEP_HMI_7 Logout End-User	
Objective(s)	
Logout End-User	
Pre-Conditions	
<ul style="list-style-type: none"> <li>○ The End-User is logged in and the list of ISITEP apps is opened</li> </ul>	
Test procedure	
Action	Expected Result
1 Tap on “Logout” button	<p>A message “logoutCurrentUser” is sent on bus</p> <p>HMI waits until SM performs logout operation (SM_SERV_8 test case)</p> <p>The HMI receives the “logoutSuccessful” message and closes HMI interface.</p>

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#### 4 TEST REPORT

TEST ID	EXECUTION DATE	RESULT	BUG ID	NOTE
ISITEP_HMI_1	29/03/2016	Passed		
ISITEP_HMI_2	29/03/2016	Passed		
ISITEP_HMI_3	29/03/2016	Passed		
ISITEP_HMI_4	29/03/2016	Passed		
ISITEP_HMI_5	29/03/2016	Passed		
ISITEP_HMI_6	29/03/2016	Passed		
ISITEP_HMI_7	29/03/2016	Passed		



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## 5 REFERENCE

- [1] ISITEP D5.6.2 - User interface and business logic manager engine design
- [2] ISITEP Description of Work
- [3] ISITEP D6.4.2 – PPDR terminal applications design description
- [4] ISITEP D5.5.2 – Semantic/Syntactic translator test report