# 6SS ACCR<sup>®</sup> User Guide



6 S S L.L.C. Bryant Ave N-Brooklyn Park-MN 55444 USA Tel: +1-651-233-0977 E-mail: info@6ss.co Web: www.6ss.co

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### **1. INTRODUCTION**

Shipping ports and logistics centers changed a lot in the past decades. Automatic Container Code Recognition (shortly ACCR) is almost now a standard for building comprehensive databases, tracking container movement, automating and simplifying railway or harbor logistics, border control and container surveillance systems.

6SS ACCR<sup>®</sup> automates these processes efficiently when setting a camera in the right position to view container codes so that 6SS ACCR<sup>®</sup> can receive the idealize input. The recognition happens in a blink of an eye and the OCR data, including serial number, country code, size, type and equipment category, are stored in the database for later viewing by the operator in Milestone XProtect Smart Client.

### 6SS ACCR® Main Features

- Fully integrated with All Milestone XProtect versions
- Accessed from the Smart Client interface
- Fully integrated with Maps
- Parallel handling and processing of unlimited camera inputs
- Multi-language support: Latin, Arabic, Cyrillic, Chinese, Korean, Thai and many more
- Country-Independent
- State and Country detection
- Color coding for faster search
- Compatible with any image source: analog, digital, still images and MPEG video streams
- Server side ACCR processing
- · Compatible with reflective, non-reflective, personalized and special interest plates
- Can handle distorted plate images
- Can detect the plate number regardless of the speed
- High accuracy and recognition of container code
- Very fast processing speed
- Filter through ACCR history based on various criteria
- Flexible search functionality by from-to date, container code, country and license type
- List of all captured plate numbers including plate color, country, state, confidence level, image, camera name and date.
- Option to view a playback video for the period when the container code was detected
- Rotated license plates option
- Scheduled reports on a daily, weekly or monthly basis
- Customizable dashboards and statistics
- Alarming capabilities (Email, SMS)
- Regular expression alerting



### **2. GETTING STARTED**

### 2.1. System Requirements

- Windows OS 8.1 or above
- SQL Server 2012 or above
- Milestone XProtect Management Client (2016 or above)
- Milestone Smart Client (2016 or above)
- 6SS-ACCR App
- Carmen ACCR

### 2.2. Quick Start

- Milestone XProtect Management client already installed.
- Milestone XProtect Smart client already installed.
- Run ACCRSetup.msi.

### 2.3. System Introduction

The server part of the system consists of 2 main components: Management and Recognition. Each ACCR system contains only one Management server, and one or more Recognition servers, depending on the project size and the system's distributed architecture. Both processes can be installed and ran on the same server, but each with its own configuration. The machine has to be licensed first before doing anything on the ACCR system after the installation.

Below is a figure describing the architecture of the system.



- 3- Multi-Streaming and Multi-Threading between ACCR Server and Recording Server
- 4- Results stored in Database and alarms triggered if any
- 5- Display results in Smart Client

FIGURE 1: 6SS ACCR® ARCHITECTURE



# 3. 6SS ACCR<sup>®</sup> Plugin

### 3.1. Setup Wizard

First open the copied file received and double click on ACCRSetup.msi to start the installation.

📙   🛃 🥃 🖛 Setup			-		×
File Home Share	View				~ ?
← → · ↑ 🔒 → Setup		5 V			
🛃 Quick access	Name	Date modified	Туре	Size	
	🕞 ACCRSetup.msi	5/15/2020 5:14 PM	Windows Installer		690 KB
🗦 6SS Dropbox					
o Creative Cloud Files					
📥 OneDrive - 6SS					
💻 This PC					
Petwork					
1 item					

FIGURE 2: OPEN ACCR SETUP LOCATION

The setup wizard opens, click Next to continue.

🖟 ACCR Server			_		$\times$
Welcome to the ACCR S	Server Setup	Wizard			-
The installer will guide you through the st	eps required to instal	ACCR Server o	n your	comput	er.
WARNING: This computer program is pro Unauthorized duplication or distribution o or criminal penalties, and will be prosecut	otected by copyright   f this program, or any led to the maximum e	aw and internat portion of it, ma xtent possible u	ional tre y result nder the	eaties. in seve e law.	ere civil
	Cancel	< Back		Ne	«t >

FIGURE 3: ACCR SETUP WELCOME PAGE



### 3.2. Installation Folder

Choose ACCR installation folder path and click Next.

🛃 ACCR Server			_		×
Select Installation Folde	ər				
The installer will install ACCR Server to t	he following folder.				
To install in this folder, click "Next". To i	nstall to a different fold	der, enter it bel	ow or cl	ick "Brov	vse".
Eolder: C:\ACCR Server\				Browse	
1		[	D	jisk Cost.	
Install ACCR Server for yourself, or for	anyone who uses this	computer:			
○ <u>E</u> veryone					
● Just <u>m</u> e					
	Cancel	< <u>B</u> ack		<u>N</u> ext	>

FIGURE 4: ACCR INSTALLATION FOLDER

### 3.3. <u>Complete Installation</u>

Confirm the Installation by clicking Next and check that the plugin has been successfully installed.

H ACCR Server		_	-	×
Installation Complete				
ACCR Server has been successfully inst-	alled.			
Click "Close" to exit.				
Please use Windows Update to check for	or any critical update	es to the .NET Fram	nework.	
	Cancel	< <u>B</u> ack	<u>C</u>	lose

FIGURE 5: ACCR INSTALLATION COMPLETE



# 4. 6SS ACCR<sup>®</sup> Application

Open 6SS ACCR<sup>®</sup> app previously installed, specify SQL server address and click Connect.

Server address:	http://localhost/	```
Authentication:	Windows authentication (current user)	`
User name:	6SS\User	~
Password:		
	Remember password	

FIGURE 6: CONNECT TO SERVER

In the first tab, the added cameras (if any) defined under ACCR Camera tab will be listed. Click **Start ACCR** button to start the recognition process on the related cameras. After properly setting the required cameras and given a proper license, a list of detected container codes will be filled line by line listing the camera name along with the country, state, region, captured date, plate color and its related image.

💀 6SS Rec	ognition Server									-	×
ACCR Re	cognition ACCR	Camera Lic	ense								
		Camera Automatic C	Container Cod	e Recognition -	Camera 1						
Sta	art ACCR										
Camer	a Region	OCR	State	Country	Plate Color	Confidence	Date	Image			

FIGURE 7: ACCR RECOGNITION TAB



Under **ACCR Camera** tab specify all the cameras dedicated for ACCR, update or delete camera when required, or even change the camera status (enable/disable). Make sure also to specify the SQL server address/name and notice the number of cameras available based on the license request.

😸 6SS Recognition Server			-	
ACCR Recognition ACCR Camera License				
	Add Camera Update Camera	Delete Camera		
Name	Status			₽∕╱
Automatic Container Code Recognition - Camera 1	M			
			Server Name	665
			Nb. of Cameras	16
			Save S	QL

FIGURE 8: ACCR CAMERA TAB

A license is needed for the ACCR engine to work. For this purpose, click "Generate the requested license" button and send the generated file to <u>Tech.t@6ss.co</u>. Once you receive the license file, place it in the specified path highlighted in green as shown in the below figure.

🖶 6SS Recognition Server		-	×
ACCR Recognition ACCR Camera	License		
Generate the requested license			
License Path :	12/31/2020 00:00:00		
License Path :	C:\ACCR\6sslcs		

FIGURE 9: LICENSE TAB



## 5. Smart Client ACCR Plugin

### 5.1. ACCR Live Detection

Open Milestone XProtect Smart Client to view ACCR live detection after selecting the dedicated camera from the button **Select Camera** in the bottom right corner, then the button will be renamed as the camera's name. The list of captured container codes will be shown in the right panel.



FIGURE 10: ACCR LIVE DETECTION



### 5.2. ACCR Plugin Tab

Click **ACCR** tab to view the list of all captured container codes, along with their related camera, code, char code and color, confidence, captured date, and the related image.

Use the filters in the right panel to filter the list as convenient and click on "Refresh" button. You can as well generate an excel/pdf file for later investigation as shown in Figure 12 and Figure 13.

Milestone XProtect Smart Client												5/20/20	020 1:23:43 PM	- 0
Live Playback Search	Alarm Manager 💋	AGCR SCYL	LA Sy	stem Monitor									4	- 0 1
													Se	etup
SACCR History Reports														
Camera	Code	Read Code	Char Color	Char Back Color	Char Confidence	Code Confidence	Code Length	Image Confidence	Image Text	Confidence	Date	Col Courter		
atomatic Container Code Recognition - Camera 1	RZDU5203247	RZDU5203247	16777215	0	82	0	11	82	RZDU5203247	41	4/27/2020 11:22 /			
utomatic Container Code Recognition - Camera 1	RZDU5208697	RZDU5208697	16777215	0	95	0	п	72	RZDU5208697	36	4/27/2020 11:22 /	Code Learth		
utomatic Container Code Recognition - Camera 1	CBHU1456717C6HU	CBHU1456717C6HU	16777215	0	92	0	15	70	CBHU1456717C6HU	35	4/27/2020 11:22.	Camera		
atomatic Container Code Recognition - Camera I	DVTU3601279U312	DVTU3601279U312	16777215	0	89	0	15	70	DVTU3601279U312	35	4/27/2020 11:22			
utomatic Container Code Recognition - Camera 1	CRXU1162087	CRXU1162087	16777215	0	94	0	n	71	CRXU1162087	36	4/27/2020 11:22 /	Frem 04/01/2020 ~	Till 05/20/20	120 2 🗸
atomatic Container Code Recognition - Camera 1	CRKU1162087	CRKU1162087	16777215	0	95	0	п	74	CRKU1162087	37	4/27/2020 11:22			
utomatic Container Code Recognition - Camera 1	CRXU1162087	CRXU1162087	16777215	0	95	0	n	72	CRXU1162087	36	4/27/2020 11:22 /	Refresh	Excel	PDF
utomatic Container Code Recognition - Camera 1	ESLI5805013	ESLI5805013	16777215	0	91	0	n	67	ESL15805013	34	4/27/2020 11:22/			
atomatic Container Code Recognition - Camera 1	INBU539635742G1	INBU539635742G1	16777215	0	93	0	15	70	INBU539635742G1	35	4/27/2020 11:22 /			
atomatic Container Code Recognition - Camera 1	TNBU539635742G1	TNBU539635742G1	16777215	0	79	0	15	76	TNBU539635742G1	38	4/27/2020 11:22			
tomatic Container Code Recognition - Camera 1	EISU153453042G1	EISU153453042G1	16777215	0	99	0	15	72	EISU153453042G1	36	4/27/2020 11:22 :			
atomatic Container Code Recognition - Camera 1	TGHU859260245G1	TGHU859260245G1	16777215	0	99	0	15	84	TGHU859260245G1	42	4/27/2020 11:22 /			
atomatic Container Code Recognition - Camera 1	GATU401907142G1	GATU401907142G1	0	16777215	91	0	15	78	GATU401907142G1	39	4/25/2020 6:39 P			
atomatic Container Code Recognition - Camera 1	GATU491907142G1	GATU491907142G1	0	16777215	90	0	15	81	GATU491907142G1	41	4/25/2020 6:39 P	The Property in		
stomatic Container Code Recognition - Camera 1	HLXL1404799HLXU	HLXL1404799HLXU	16777215	0	90	0	15	71	HLXL1404799HLXU	36	4/25/2020 6:39 P		Contract of the second	
tomatic Container Code Recognition - Camera 1	CBHU1456717C6HU	CBHU1456717C6HU	16777215	0	93	0	15	70	CBHU1456717C6HU	35	4/25/2020 6:37 P			
atomatic Container Code Recognition - Camera 1	DVTU3601279U312	DVTU3601279U312	16777215	0	89	0	15	70	DVTU3601279U312	35	4/25/2020 6:37 P			
atomatic Container Code Recognition - Camera 1	CRXU1162087	CRXU1162087	16777215	0	94	0	n	71	CRXU1162087	36	4/25/2020 6:37 P			
atomatic Container Code Recognition - Camera 1	CRKU1162087	CRKU1162087	16777215	0	95	0	11	69	CRKU1162087	35	4/25/2020 6:37 P			
tomatic Container Code Recognition - Camera 1	CRXU1162087	CRXU1162087	16777215	0	95	0	n	71	CRXUI162087	36	4/25/2020 6:37 P			
tomatic Container Code Recognition - Camera 1	CRKU1162087	CRKU1162087	16777215	0	96	0	11	74	CRKU1162087	37	4/25/2020 6:37 P			-
atomatic Container Code Recognition - Camera 1	CRXU1162087	CRXU1162087	16777215	0	97	0	n	76	CRXU1162087	38	4/25/2020 6:37 P			
				V	dla	10 M			All and the second second		>			

FIGURE 11: ACCR PLUGIN TAB

E	a 5- 0 Booki-Excel												
Fil	e Home Insert Page Layout Formulas	Data Review Vie	w Add-Ins ACRO	DBAT Team									Mari
-	Cut		a Suldian Test	Consul			Normal	_	Cood	Noutral	Calculation	🖦 🖏 🛱	ΣΑι
			· · Er wrap ieu	General		ē 🐨 🖕	Normal Bac		0000	Neutrai	calculation +	· · · · · · · · · · · · · · · · · · ·	🗄 😈 Fil
Past	e → Format Painter B I U - 🖽 - 🎂 - 🗛 -	===	🗄 Merge & Center	- \$-%,	Conditi	onal Format as	heck Cell Exp	lanatory	Input	Linked Cell	Note 👳	Insert Delete Forn	nat 🧹 CI
	Clinboard 5 Fant 5	Alia	ament	C. Number	Formatt	ing * lable *		Stula	,			Cellr	
	Cuporana as toric as Augunitoric as numeri a agino agino agino anti-												
	A	В	с	D	E	F	G	н	1	J	к	L	м
1	ACCD						1						
2	ACCR		From	5/20/2019 0:00									
3			Till	5/20/2020 23:59									
4													
5	Camera	Code	Read Code	Char Color	Char Back Color	Char Confidence	Code Confidence	Code Length	Confidence	Image Confidence	Image Text	Date	
6	Automatic Container Code Recognition - Camera 1	RZDU5203247	RZDU5203247	16777215	0	82	0	11	41	82	RZDU5203247	4/27/2020 11:22	
7	Automatic Container Code Recognition - Camera 1	RZDU5208697	RZDU5208697	16777215	0	95	0	11	36	72	RZDU5208697	4/27/2020 11:22	
8	Automatic Container Code Recognition - Camera 1	CBHU1456717C6HU	CBHU1456717C6HU	16777215	0	92	0	15	35	70	CBHU1456717C6HU	4/27/2020 11:22	
9	Automatic Container Code Recognition - Camera 1	DVTU3601279U312	DVTU3601279U312	16777215	0	89	0	15	35	70	DVTU3601279U312	4/27/2020 11:22	
10	Automatic Container Code Recognition - Camera 1	CRXU1162087	CRXU1162087	16777215	0	94	0	11	36	71	CRXU1162087	4/27/2020 11:22	
11	Automatic Container Code Recognition - Camera 1	CRKU1162087	CRKU1162087	16777215	0	95	0	11	37	74	CRKU1162087	4/27/2020 11:22	
12	Automatic Container Code Recognition - Camera 1	CRXU1162087	CRXU1162087	16777215	0	95	0	11	36	72	CRXU1162087	4/27/2020 11:22	
13	Automatic Container Code Recognition - Camera 1	ESLI5805013	ESLI5805013	16777215	0	91	0	11	34	67	ESLI5805013	4/27/2020 11:22	
14	Automatic Container Code Recognition - Camera 1	INBU539635742G1	INBU539635742G1	16777215	0	93	0	15	35	70	INBU539635742G1	4/27/2020 11:22	
15	Automatic Container Code Recognition - Camera 1	TNBU539635742G1	TNBU539635742G1	16777215	0	79	0	15	38	76	TNBU539635742G1	4/27/2020 11:22	
16	Automatic Container Code Recognition - Camera 1	EISU153453042G1	EISU153453042G1	16777215	0	99	0	15	36	72	EISU153453042G1	4/27/2020 11:22	
17	Automatic Container Code Recognition - Camera 1	TGHU859260245G1	TGHU859260245G1	16777215	0	99	0	15	42	84	TGHU859260245G1	4/27/2020 11:22	
18	Automatic Container Code Recognition - Camera 1	GATU401907142G1	GATU401907142G1	0	16777215	91	0	15	39	78	GATU401907142G1	4/25/2020 18:39	
19	Automatic Container Code Recognition - Camera 1	GATU491907142G1	GATU491907142G1	0	16777215	90	0	15	41	81	GATU491907142G1	4/25/2020 18:39	
20	Automatic Container Code Recognition - Camera 1	HLXL1404799HLXU	HLXL1404799HLXU	16777215	0	90	0	15	36	71	HLXL1404799HLXU	4/25/2020 18:39	
21	Automatic Container Code Recognition - Camera 1	CBHU1456717C6HU	CBHU1456717C6HU	16777215	0	93	0	15	35	70	CBHU1456717C6HU	4/25/2020 18:37	
22	Automatic Container Code Recognition - Camera 1	DVTU3601279U312	DVTU3601279U312	16777215	0	89	0	15	35	70	DVTU3601279U312	4/25/2020 18:37	
23	Automatic Container Code Recognition - Camera 1	CRXU1162087	CRXU1162087	16777215	0	94	0	11	36	71	CRXU1162087	4/25/2020 18:37	
24	Automatic Container Code Recognition - Camera 1	CRKU1162087	CRKU1162087	16777215	0	95	0	11	35	69	CRKU1162087	4/25/2020 18:37	
25	Automatic Container Code Recognition - Camera 1	CRXU1162087	CRXU1162087	16777215	0	95	0	11	36	71	CRXU1162087	4/25/2020 18:37	
26	Automatic Container Code Recognition - Camera 1	CRKU1162087	CRKU1162087	16777215	0	96	0	11	37	74	CRKU1162087	4/25/2020 18:37	
27	Automatic Container Code Recognition - Camera 1	CRXU1162087	CRXU1162087	16777215	0	97	0	11	38	76	CRXU1162087	4/25/2020 18:37	
28	Automatic Container Code Recognition - Camera 1	ESLI5805013	ESLI5805013	16777215	0	91	0	11	38	75	ESLI5805013	4/25/2020 18:37	
29	Automatic Container Code Recognition - Camera 1	INBU539635742G1	INBU539635742G1	16777215	0	93	0	15	35	70	INBU539635742G1	4/25/2020 18:37	

FIGURE 12: ACCR EXCEL FILE



0						0.1	<b>0</b> 1 1 11	0 6 1				
Camer	Code	Read Code	Char Color	Char Back Color	Char Confidence	Code Confidence	Code Length	Confidence	Image Confidence	Image Lext	Date	id
Automat Containe Cod Recognition Camera	RZDU520324 7	RZDU520324 7	16777215	0	82	0	11	41	82	RZDU520324 7	4/27/2020 AM 11:22:48	1704
Automat Containe Cod Recognition Camera	RZDU520869 7	RZDU520869 7	16777215	0	95	0	11	36	72	RZDU520869 7	4/27/2020 AM 11:22:45	1703
Automat Containe Cod Recognition Camera	CBHU145671 7C6HU	CBHU145671 7C6HU	16777215	0	92	0	15	35	70	CBHU145671 7C6HU	4/27/2020 AM 11:22:43	1702
Automat Containe Cod Recognition Camera	DVTU360127 9U312	DVTU360127 9U312	16777215	0	89	0	15	35	70	DVTU360127 9U312	4/27/2020 AM 11:22:40	1701
Automat Contain Cod Recognition Camera	CRXU116208 7	CRXU116208 7	16777215	0	94	0	11	36	71	CRXU116208 7	4/27/2020 AM 11:22:35	1700
Automat Contain Cod Recognition Camera	CRKU116208 7	CRKU116208 7	16777215	0	95	0	11	37	74	CRKU116208 7	4/27/2020 AM 11:22:34	1699
Automat Contain Cod Recognition Camera	CRXU116208 7	CRXU116208 7	16777215	0	95	0	11	36	72	CRXU116208 7	4/27/2020 AM 11:22:32	1698
Automa	ESLI5805013	ESLI5805013	16777215	0	91	0	11	34	67	ESLI5805013	4/27/2020	1697

FIGURE 13: ACCR PDF FILE