SMP ROBOTICS

SMART SECURITY ROBOT
ARGUS 2023
S5.2-IR-IS AND S5.3-IR-IS

SMART SECURITY ROBOT
PICARD 2023
S5.2-PTZ-IS

SMP Security Robot
S5.2
IR/IS

SMP Security Robot
S5.3
IR/IS

Outdoor Security Robot
SMP S5.2 | S5.3 2023 series

SMP

SECURITY ROBOT WITH THERMAL CAMERA

SMP SECURITY ROBOT
ARGUS 2023
S5.2-IR-IS AND S5.3-IR-IS

SMP SECURITY ROBOT
PICARD 2023
S5.2-PTZ-IS

SMP Security Robot
S5.3 IR/IS

SMP Security Robot
S5.2 IR/IS

1 Proactive Surveillance Solution

Our robots are designed to optimize multilevel perimeter coverage and integrate with other security systems, effectively manage battery consumption, and exchange data on any out-of-pattern activity, as well as any perimeter intrusions and trespassing.

2 Optimal Outdoor Performance

Developed for outdoor security. The robots are all-weather, all-surface, smart security, turn-key solution, and work at any time of the day or night, in any weather condition, at any time of the year, on any road surface, and on a variety of terrains. Any weather autonomous charging station available for all models.

3 Multi-Integration Platform

Designed to integrate with popular security systems like Visual Management Systems, Alarm Systems, Messengers, and Voice communication platforms.

4 Fully Autonomous

Powered by Artificial Intelligence as a proactive surveillance system that operates independently on its own using real-time obstacle avoidance, human recognition, and many other cutting-edge technological advancements.

5 Group Patrolling

Made to work in teams of up to 30 robots as one in swarm mode. Robots memorize routes, interact with each other, keep the necessary distance, and transmit and exchange information with each other. Add another robot to your team and the rest will train the new robot.

6 Real Outdoor security robots

SMP security robots have been designed as outdoor security robots only. There are no flat roads in the world, but in the real world there are huge temperature range, rain, snow, sand, mud, gravel, small debris, puddles, slopes, hills, off-road... SMP Robotics Security robots working very well in such conditions.

7 Robot initial training and further self-learning

The training of new security officers is a long process that lasts from several weeks to several months. When working with SMP robots, you only need to train one robot in a team. When adding a new robot to a group with a trained one (or replacing one of the robots from the group), you do not need to spend time training the robot. The new robot immediately knows everything that the rest of the robots in the group know. As they work, all robots continue self-learning and share their knowledge with other robots of the group.

7 REASONS WHY

SMP ROBOTICS

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SMART SECURITY ROBOT
PICARD 2023
S5.2-PTZ-IS

SMP Security Robot
S5.3
IR/IS

Outdoor Security Robot
SMP S5.2 2021 series

SMP Security Robot
S5.2
IR/IS

SMP ROBOTICS

Security robot with thermal camera
Outdoor Security Robot
«Argus» S5.2-IR-IS and S5.3-IR-IS

- Fully automatic guarded area patrol
- Thermal and HD visual PTZ camera
- 360-degree video surveillance by six (6) 720P panoramic cameras
- Automatically people and face detection on PTZ and panoramic cameras
- High sensitivity microphone, audio intercom
- Horn loudspeaker, alarm button and sirens
- Embedded computers for intelligent video processing on deep learning neural networks
- ONVIF, WebRTC, edge recording H.264
- Forward and rear obstacle avoidance laser system
- Automatic charging station for 24/7 autonomous operation
- Options: non-lethal weapons

IR/IS
SMP Security Robot
S5.2

SMP SECURITY ROBOT
ARGUS 2023
S5.2-IR-IS AND S5.3-IR-IS

SMP SECURITY ROBOT
PICARD 2023
S5.2-PTZ-IS

5.2
5.3

SECURITY ROBOT WITH THERMAL CAMERA

4

SMART SECURITY ROBOT
ARGUS 2023
S5.2-IR-IS AND S5.3-IR-IS

SMART SECURITY ROBOT
PICARD 2023
S5.2-PTZ-IS

Security robot with thermal camera
«ARGUS» S5.2-IR-IS AND S5.3-IR-IS

SMP Security Robot
S5.3
IR/IS

TOP-MOUNTED OBSTACLE
AVOIDANCE SYSTEM

SMP Security Robot
S5.2
IR/IS

ARGUS 2023

S5.2-IR-IS AND S5.3-IR-IS

SMP SECURITY ROBOT

PICARD 2023

S5.2-PTZ-IS

IR/IS
SMP Security Robot
S5.2

Robotic protection of territories and perimeters

The robot "Argus" is designed for automatic patrolling of territories. Carry out video surveillance at a distance of up to 100 meters and automatic detection of people at a distance of up to 50 meters.

"Argus" is able to move in complete darkness and detect people in unlit places using a thermal imaging camera. The robot automatically moves along the programmed route, stops at the specified positions. The PTZ camera rotates and detects people, and when they are reliably detected, an alarm is sent to the operator. One operator can control up to 10 robots. At a distance of up to 20 meters, the robot continuously observes the space with six (6) all-round cameras and, when a person is detected, points the PTC camera at him. If necessary, the operator can use the manual control mode of the camera. A highly sensitive microphone is placed on the mast of the robot. It provides the operator with the ability to control the acoustic environment around the robot; this is especially true in conditions of poor lighting or limited visibility. Reliable protection of large areas requires the use of several robots. For their joint work, the mode of automatic control of patrol routes is used. In this mode, robots are evenly distributed over the territory. When one of the robots needs charging, the remaining robots patrol its part of the protected area. To prevent intrusions the robot is equipped with a horn loudspeaker, sirens and an acoustic intercom as standard. To protect critical objects from the crowd, the robot can be additionally equipped with non-lethal weapons: LED incapacitator, green laser dazzler, pepper spray, super bright flashlight.

Automatic patrol of the protected area

The Argus is capable of patrolling outdoors around the clock, day and night, in bright sunshine or rain. The automatic movement of the robot is provided by a satellite and visual motion control system.

If there are obstacles in the way of the robot, it bypasses them. When moving objects, people or cars are detected, the robot stops until they clear the path of movement. For continuous round-24/7 operation of robots, regular charging of their batteries is necessary. The robot does this automatically. When the batteries are low, the robot moves to the automatic charging station, stops there and, while charging the batteries, continues to conduct intelligent video surveillance. Transmission of video, location and status coordinates robotics is carried out via wireless internet Wi-Fi or 4G channels.The software allows you to control the operation of the robot remotely via a computer or mobile device connected to the Internet. The presence of the operator at the protected object is not required. The operator can be in a remote monitoring center and, if necessary, call an alarm group to a protected facility. The robot video surveillance software supports the ONVIF protocol. Provides quick integration into existing fixed CMS video surveillance systems. The security robot allows you to significantly reduce, and in some cases even refuse the constant presence of guards in the protected area. All that is needed for the reliable operation of robotic security is a wireless communication channel and electricity. The design of the robot allows it to move reliably on all types of road surfaces and work in a wide temperature range. The robot requires minimal regular maintenance and is equipped with a self-diagnosis.

S5.3

S5.2

SECURITY ROBOT
WITH THERMAL
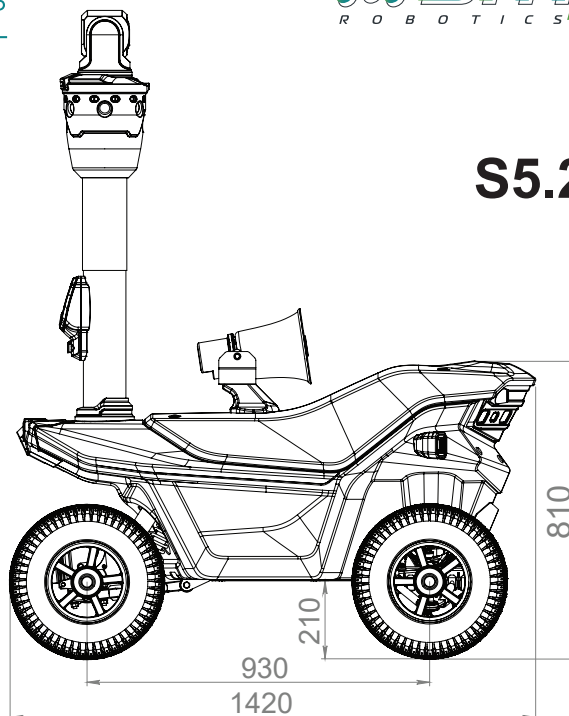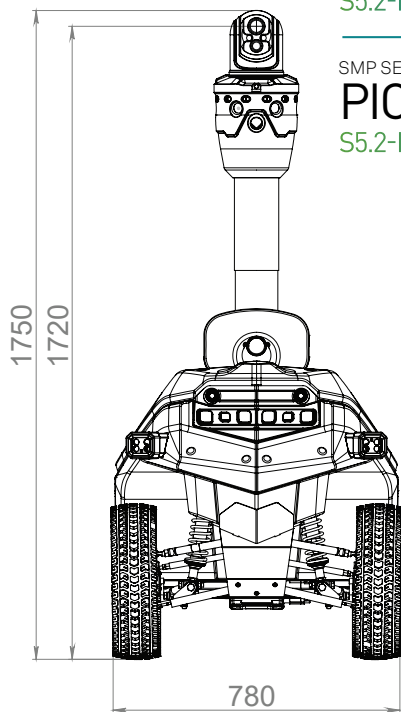CAMERA

SECURITY ROBOT WITH THERMAL CAMERA

«ARGUS» 2023 S5.2-IR-IS AND S5.3-IR-IS

Characteristics of multispectral security surveillance system

SMP SECURITY ROBOT
ARGUS 2023
S5.2-IR-IS AND S5.3-IR-IS

SMP SECURITY ROBOT
PICARD 2023
S5.2-PTZ-IS

SMP ROBOTICS

S5.2-IR-IS

1750
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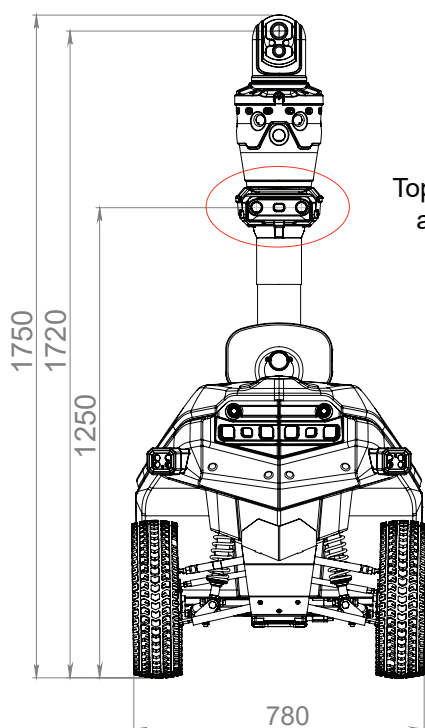780
810
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930
1420

SMP ROBOTICS

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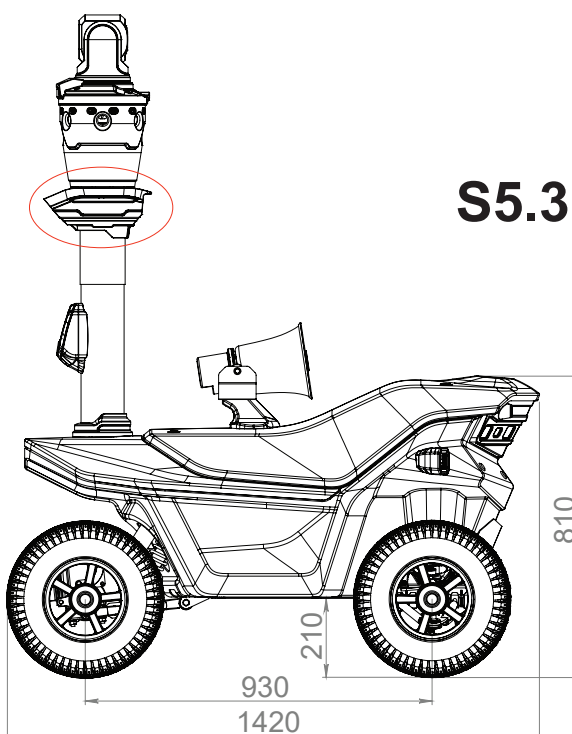
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S5.3-IR-IS

Top-mounted obstacle avoidance system

1750
1720
1250
780
810
210
930
1420

SMP ROBOTICS

SMART SECURITY ROBOT
ARGUS 2023
S5.2-IR-IS AND S5.3-IR-IS

SMART SECURITY ROBOT
PICARD 2023
S5.2-PTZ-IS

SMP Security Robot
S5.3
IR/IS

SMP Security Robot
S5.2
IR/IS

SMART SECURITY ROBOT
ARGUS 2023
S5.2-IR-IS AND S5.3-IR-IS

SMART SECURITY ROBOT
PICARD 2023
S5.2-PTZ-IS

TOP-MOUNTED OBSTACLE
AVOIDANCE SYSTEM

SMP Security Robot
S5.3
IR/IS

SMP Security Robot
S5.2
IR/IS

SECURITY ROBOT WITH THERMAL CAMERA

«ARGUS» 2023 S5.2-IR-IS AND S5.3-IR-IS

Characteristics of multispectral security surveillance system

IR/IS

SMP Security Robot

S5.2

THERMAL IMAGING PTZ CAMERA	
Type of sensor Uncooled Microbolometer FPA,	17 µm
Resolutions	640 x 480
Pixel pitch	17 µm
Digital zoom	x1 – 4
Lens	19 mm
FOV	32° x 24.2°
NETD	≤0.06°@30°C
Frame rate	50/60Hz
Spectral range	8 – 14 µm
Measured temperature range	-20°C – +135°C
Temperature accuracy ± 2°	
Visual PTZ camera	
Zoom module	1/2.8" Exmor R CMOS; 2 MP; 0,006 lx; optical: x30, digital: x12
Video format	1080P/30, 1080P/25, 720P/60, 720P/50, 720P/30, 720P/25
Resolution	Full HD 1920 x 1080
Horizontal Field of View	63.7° – 2.3°
Lens	4.3 mm – 129 mm
Day/Night ICR	auto
Electrononis image stabilisation	Super stabilisation by Sony
PTZ MECHANICAL CHARACTERISTICS	
Pan range	360°Continuous
Pan speed	up to 70°/sec
Tilt range	-20° – +90°
Tilt speed	up to 70°/sec
360-DEGREE PANORAMIC VIDEO SURVEILLANCE	
Quantity of panoramic cameras	6
Resolution panoramic cameras	1280 × 720, AHD
Sensitivity of panoramic cameras	0.005 lx
INTELLIGENT VIDEO SURVEILLANCE SYSTEM	
Embedded computer of video processing	2pcs T9
Processor module	Jetson TX2
Embedded SSD	120 GB
External HDD	up to 1TB, USB 3.0
Automatic human detecting range at night, by thermal PTZ camera	up to 150 m (492 ft)
Automatic human detecting range at day, by visual PTZ camera	up to 100 m (328 ft)
Automatic human detecting range at day, by panoramic cameras	up to 25 m (100 ft)
Automatic face recognition range at day, by visual PTZ camera	up to 50 m (164 ft)
Time of full turn PTZ at night in human automatic detection mode	120 sec
Time of full turn PTZ at day in human automatic detection mode	320 sec
Motion detection range by panoramic cameras at day, for tracking by PTZ	25 m (82 ft)
Tracking time of human by means PTZ, no less	5 sec
Microphone acoustic range	15 – 20 m (50 – 65 ft)
Loudspeaker power	30 W

SECURITY ROBOT WITH THERMAL CAMERA

«ARGUS» 2023 S5.2-IR-IS AND S5.3-IR-IS

Characteristics of multispectral security surveillance system

IR/IS
SMP Security Robot
S5.2

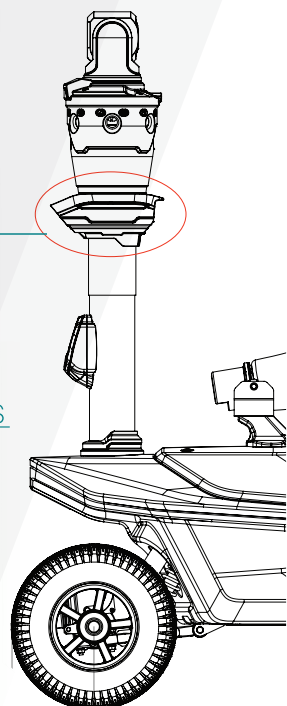|		
Cruising range at +5°C (41°F), up to	24 km	15 miles
Accuracy of check-point drive-through circle radius	0.8 m	2.5'
Minimum illumination for visual navigation	6 lux	
Minimum illumination for obstacle avoided systems	0 lux	
Speed while traveling autonomously	4 – 6 km/h	2.5 – 4 mph
Width of patrol route path, min	0.9 m	3.0'
Turning radius, min	2.5 m	8.2'
Ground Clearance	20 cm	7.8"
Climbing Angle	15°	
Dimension	1750 x 780 x 1420 mm	69" x 31" x 56"
Weight without batteries	69 kg	152 lb
Weight with batteries	133 kg	293 lb
Delivered weight with additional equipment:	Air Freight Packing 220 kg; chargeable weight 270 kg	
Waterproof and dustproof level	IP65	
Operating temperature range	-25°C – +55°C	-13°F – 131°F
Storage temperature range	-40°C – +70°C	-40°F – 158°F
Acoustic noise		64 dB (A)
BODY AND CHASSIS		
Body	Fiberglass	
Frame	Aluminum alloy	
Tires	145/75 R8	
VEHICLE POWER		
DRIVE SYSTEM REAR DIFFERENTIAL DRIVE		
Motor drive	24 Volts DC 500 W	
Brake System	Electromagnetic	
Accumulate battery	2 x 12.6 V 100 A/h Lead Acid	
Battery Charger	48 Volt DC/ 110 – 250 VAC,1 kW, UL/CSA, off board	
Charging time	2 – 3 hours	
Estimated operating time	10 –12 hours	
INTERFACE		
Wireless	4G LTE, Wi-Fi, Wi-Fi Ad Hock, Bluetooth	
AUDIO IP INTERCOM, SOUND NOTIFICATION		
Visual Color Beacon and LED Alarm Button		
Standard remote control Bluetooth		
Rugged remote control	915 MHz or 434.05 – 434.75 MHz, ISM band	

IR/IS
SMP Security Robot
S5.2

SMP Security Robot
S5.3
• Front and rear top <u>STEREO CAMERAS</u> with obstacle avoidance visual system
• Distant object motion detector

SMP Security Robot
S5.2

Two models of security robots
Argus 2023, SMP S5.2-IR-IS
Argus 2023, SMP S5.3-IR-IS

Two versions of the robot "Argus" are available, the main S5.2 and S5.3 Version S5.3 is designed for use in places where heavy equipment (bulldozers, excavators, trucks) can be located. The S5.3 is equipped with an optional overhead obstacle detector. In the case of moving objects, the robot slows down and stops much earlier than S5.2. In addition, S5.3 is able to detect obstacles hanging above the ground. For example, the bumpers of articulated dump trucks.

Robot without thermal imaging camera Picard S5.2-PTZ-IS

To patrol areas illuminated at night, the robot is supplied without a thermal imaging camera. «Picard's» PTZ camera uses the STARVIS 2 visible light sensor manufactured by Sony. The camera has high sensitivity, which allows the robot's video surveillance system to reliably detect people in very low light conditions. The difference between «Picard» and «Argus» robots is only in the absence of a thermal imaging camera. The price of «Picard» robot is more than 10% cheaper than «Argus».

SMP Security Robot
IR/IS
S5.2

The comparative characteristics of
Security robot Argus 2023 SMP S5.2-IR-IS
Security robot Argus 2023 SMP S5.3-IR-IS
Security robot Pickard 2023 SMP S5.2-PTZ-IS

Features	2023 SMP S5.2-IR-IS 5.2 ARGUS	2023 SMP S5.3-IR-IS 5.3 ARGUS	2023 SMP S5.2-PTZ-IS PICARD
PTZ IR/IS THERMAL AND IP camera 1080P	✔	✔	
360-degree video surveillance by six (6) 720P panoramic cameras	✔	✔	✔
High sensitivity microphone	✔	✔	✔
Human and face detection on PTZ and panoramic cameras	✔	✔	✔
Two (2) embedded computers T9	✔	✔	✔
Edge recording H.264	✔	✔	✔
ONVIF	✔	✔	✔
Sounds notification	✔	✔	✔
IP intercom	✔	✔	✔
Rear obstacle avoidance visual system	✔	✔	✔
Laser Road lighting	✔	✔	✔
Alarm siren	✔	✔	✔
Horn loudspeaker	✔	✔	✔
Front and rear top stereo cameras with obstacle avoidance visual system		✔	
Distant object motion detector		✔	

Software

- **Web/view** - allows to monitor robots of selected groups on site. Allows to watch online video from robot surveillance cameras (authorization required).
- **Web/console** - allows to configure robots groups, routes groups, schedule etc. (authorization required)
- **"Robot messenger** (SMP Robotics Informer)" - Telegram bot for online monitoring (short messages with a robot state and images from robot cameras).
- **"Navigator"** - software for routes management (create, remove, modify). Allows robot navigation systems monitoring.

- **"Remote Control"** - software that allows to control robot remotely in unexpected situations.
- **"Mapper Viewer"** - software for monitoring and configuration of Obstacle Detection sub-system.
- **"Stereo Viewer"** - software for monitoring and configuration of Stereo Vision sub-system.
- **"GPS Server monitor"** - allows to monitor GPS base stations and Robots connected to GPS server.
- **"Robot Diagnostics and Control Tool"** - software for robot internal systems monitoring and configuration.

Required additional equipment: GPS Base station BS5/BS6; A-box 5 unit; Automatic charging station ACS6.
Actual for the 2023 models

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S5.2-IR-IS AND S5.3-IR-IS

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PICARD 2023
S5.2-PTZ-IS

Security robot with thermal camera
«ARGUS» S5.2-IR-IS AND S5.3-IR-IS

SMP Security Robot
S5.3
IR/IS

SMP Security Robot
S5.2
IR/IS

SMP ROBOTICS

SMART SECURITY ROBOT
ARGUS 2023
S5.2-IR-IS AND S5.3-IR-IS

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S5.2-PTZ-IS

Security robot with thermal camera
«ARGUS» S5.2-IR-IS AND S5.3-IR-IS

TOP-MOUNTED OBSTACLE
AVOIDANCE SYSTEM

SMP Security Robot
S5.3
IR/IS

SMP Security Robot
S5.2
IR/IS

SMP
ROBOTICS

SMART SECURITY ROBOT
ARGUS 2023
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S5.2-PTZ-IS

IR/IS
SMP Security Robot
S5.2

IR/IS
SMP Security Robot
S5.3

Security robot with thermal camera
«ARGUS» S5.2-IR-IS AND S5.3-IR-IS

SMP ROBOTICS

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PICARD 2023
S5.2-PTZ-IS

Security robot with thermal camera
«ARGUS» S5.2-IR-IS AND S5.3-IR-IS

SMP Security Robot
S5.3
IR/IS

SMP Security Robot
S5.2
IR/IS

SMART SECURITY ROBOT
ARGUS 2023
S5.2-IR-IS AND S5.3-IR-IS

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S5.2-PTZ-IS

Security robot with thermal camera
«ARGUS» S5.2-IR-IS AND S5.3-IR-IS

TOP-MOUNTED OBSTACLE
AVOIDANCE SYSTEM

SMP Security Robot
S5.3
IR/IS

SMP Security Robot
S5.2
IR/IS

19

IR/IS
SMP Security Robot
S5.2

SECURITY ROBOT WITH THERMAL CAMERA

SMP
R O B O T I C S

SMP SECURITY ROBOT
ARGUS 2023
S5.2-IR-IS AND S5.3-IR-IS

SMP SECURITY ROBOT
PICARD 2023
S5.2-PTZ-IS

SMP
R O B O T I C S

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