

RECOVERY, TRANSFORMATION, AND RESILIENCE PLAN

Technical Project for Supply, Implementation and Commissioning: “Video-surveillance System for Traffic Control Management in La Rinconada Municipality”

La Rinconada Town Hall

1. INTRODUCTION – SUMMARY

Next Generation-EU funds are greatly contributing to La Rinconada (Seville) municipality’s urban development. Within this strategy, the Recovery, Transformation, and Resilience Plan is one of the most significant lines agreed upon by the European Commission on June 16, 2021, and the Government of Spain on July 13, 2021.

Among the different proceedings developed, we must highlight the technical project for the supply, implementation, and commissioning of a “Video-surveillance System for Traffic Control Management in La Rinconada Municipality”.

After the successful “Pilot Project: Implementation of Traffic Monitoring Cameras in the Junction of Calle Madrid with Calle Cultura (in San José de La Rinconada area)”, we decided to install the system and the road safety management cameras in the remaining locations.

This responsibility falls on the municipality, which is why the local government set the following objectives:

- Mitigate climate change, by reducing, as much as possible, the municipality’s CO₂ emissions.
- Adaptation to climate change, by reducing the adverse effects of the present and future climate conditions.
- A circular economy, including prevention and recycling.
- Atmosphere, water, and soil pollution prevention and control.
- Ecosystems and biodiversity protection and restoration.

This project has improved citizens’ quality of life through a better car’s routing. The implementation of these security systems benefits our residents substantially, as traffic has increased significantly in La Rinconada municipality.

2. CHARGES

The total investment for this action amounts to €420,095.06, of which 90% is funded by Next Generation-EU funds, while the remaining 10% comes from La Rinconada Town Hall's own funds. Moreover, the total VAT (€69,909.06) is entirely financed by La Rinconada Town Hall. The impact of this initiative is reflected in the municipality's recovery, transformation, and resilience improvements, such as the video surveillance system implementation and commissioning for traffic control management. This initiative contributes significantly to strengthening public safety.

CONTRACTS	AMOUNT WITHOUT VAT	AMOUNT WITH VAT
Engagement of consulting professionals and the implementation of the technical project adaptation for the system. Engagement of consultancy Professional Services and of the technical project adaptation for the implementation of the video surveillance system for traffic control.	€ 12,000.00	€ 14,520.00
Engagement of the supply and the implementation of the video surveillance system for traffic control.	€ 333,000.00	€ 399,300.00
Informative billboards and plaques, communication activities, and other low-value contracts.	€ 106.00	€ 128.26
Software and hardware supply for better efficacy and agility in the development of traffic control procedures.	€ 5,080.00	€ 6,146.80
TOTAL	€ 350,186.00	€ 420,095.06

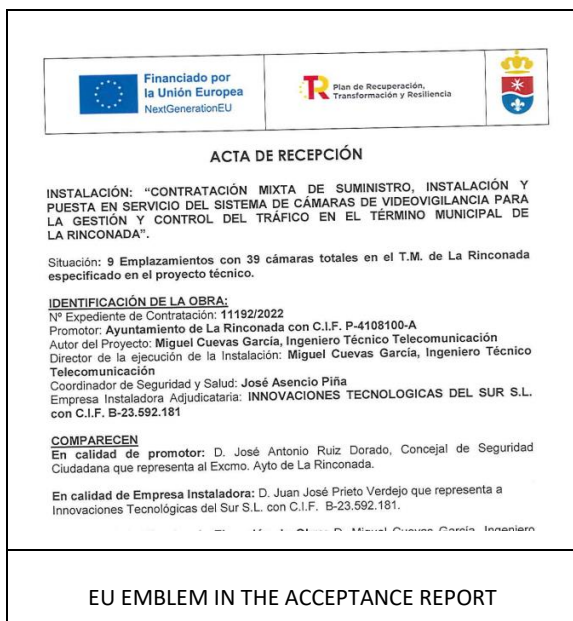
3. COMMUNICATION MANUAL

In accordance with Article 9 of the «*Orden HFP/1030/2021*» (Order HFP/1030/2021 from the State Official Gazette), and to guarantee the specific, coherent, effective, and reaching diverse audience information supply, including means of communication and citizens, the Member State should:

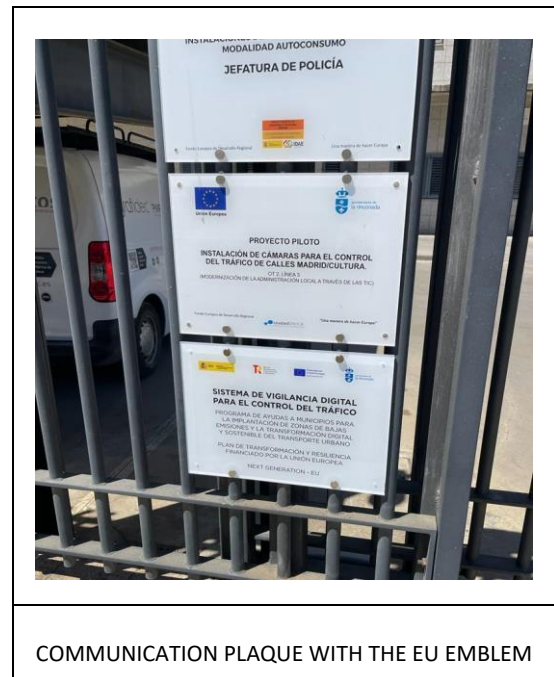
- Have a strategy to publish and ensure the recognition of the RRF contribution to Europe's recovery, and specifically, to the twin ecological and digital transitions.
- Establish and maintain a unique website that provides information about the RRF and its projects. The specific website link should be provided to the Commission.
- Guarantee that the final recipients of the European Union funding, in the framework of RRF, recognise the source and guarantee the visibility of the EU funding.

For communication and sensitization actions related to the operation implemented, a total of €128.26 has been invested. This operation has been co-funded by Next Generation-EU and La Rinconada Town Hall.

We should highlight that in all the communication activities made, the required elements by the normative references were included: the European emblem, the Next Generation-EU co-funding reference, and the slogan “Recovery, Transformation, and Resilience Plan”. Furthermore, these elements not only appear in the works’ communication plaque but also in reports, procurement documents, projects, bills, etc.

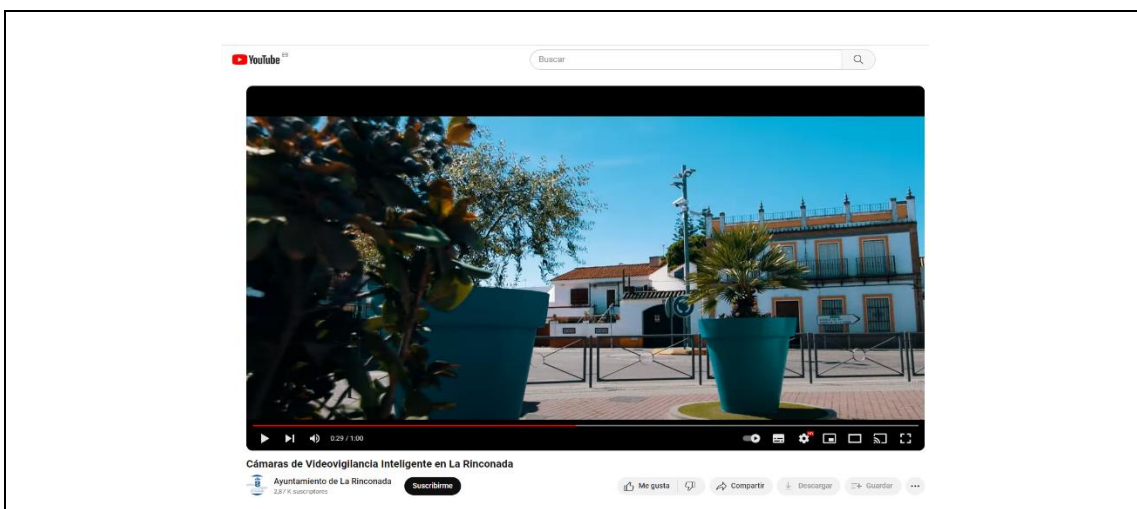


EU EMBLEM IN THE ACCEPTANCE REPORT



COMMUNICATION PLAQUE WITH THE EU EMBLEM

La Rinconada Town Hall



Video: “Cámaras de Videovigilancia Inteligente en La Rinconada” (Smart video-surveillance cameras in La Rinconada)

Posted on YouTube on March 27, 2023, and shared through La Rinconada Town Hall’s official social media

Link: <https://www.youtube.com/watch?v=ZDzAHvqWgyg>

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ayuntamiento de la rinconada
ciudad para vivir, ciudad para invertir



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Fondos E

Fondo Europeo de Desarrollo Regional
"Una manera de hacer Europa"

Fondos EUROPEOS

Presentación

El Ayuntamiento de La Rinconada ha elaborado, de forma ampliamente participativa, la Estrategia de Desarrollo Urbano Sostenible e Integrado: "Ciudad Única, La Rinconada 2022".

De este modo, el Ayuntamiento de La Rinconada en calidad de Entidad Beneficiaria de la convocatoria, o Entidad DUSI, va a seleccionar las operaciones concretas que se integran dentro de las distintas líneas de actuación de su Estrategia, actuando como organismo intermedio, que coloquialmente han sido denominados Organismos Intermedios "Ligeros" (OIL).



Unión Europea

 **FEDER**  **FEADER**

Informative dissemination through La Rinconada Town Hall's official website
Menu: "Next Generation" within "EUROPEAN Funds"
Link: <https://www.larinconada.es/fondos-europeos/next-generation>

PRESS



La Rinconada (Sevilla) ultima los preparativos para nueve puntos de videovigilancia inteligente



En el municipio sevillano, las labores de instalación se complementan con pequeñas microzanjas necesarias para instalar la fibra óptica que necesitan para su funcionamiento



Title: "La Rinconada (Sevilla) ultima los preparativos para nueve puntos de videovigilancia inteligente" (Final preparations in La Rinconada (Seville) for the implementation of smart video surveillance cameras in nine new locations).

(Published on April 4, 2023, on the Spanish radio transmitter COPE, Andalusia)

Link:
https://www.cope.es/emisoras/andalucia/noticias/rinconada-ultima-los-preparativos-para-nueve-puntos-videovigilancia-inteligente-20230404_2642326

	<p>Title: “La Rinconada instala 36 cámaras con inteligencia artificial para control de tráfico y mejora de la seguridad” (36 cameras with artificial intelligence were installed in La Rinconada for traffic control and security improvement).</p> <p>(Published on February 4, 2023, on the Spanish news website Teleprensa)</p> <p>Link: https://www.teleprensa.com/articulo/sevilla/rinconada-instala-36-camaras-inteligencia-artificial-control-traffic-mejora-seguridad/202302041042451396875.html</p>
	<p>Title: “La Rinconada instala 36 cámaras con inteligencia artificial para control de tráfico y mejora de la seguridad” (36 cameras with artificial intelligence were installed in La Rinconada for traffic control and security improvement).</p> <p>(Published on February 5, 2023, on the Spanish press ABC, Seville)</p> <p>Link: https://www.abc.es/sevilla/provincia/rinconada-instala-camaras-inteligencia-artificial-control-traffic-20230205112812-nts.html?ref=https%3A%2F%2Fwww.abc.es%2Fsevilla%2Fprovincia%2Frinconada-instala-camaras-inteligencia-artificial-control-traffic-20230205112812-nts.html</p>

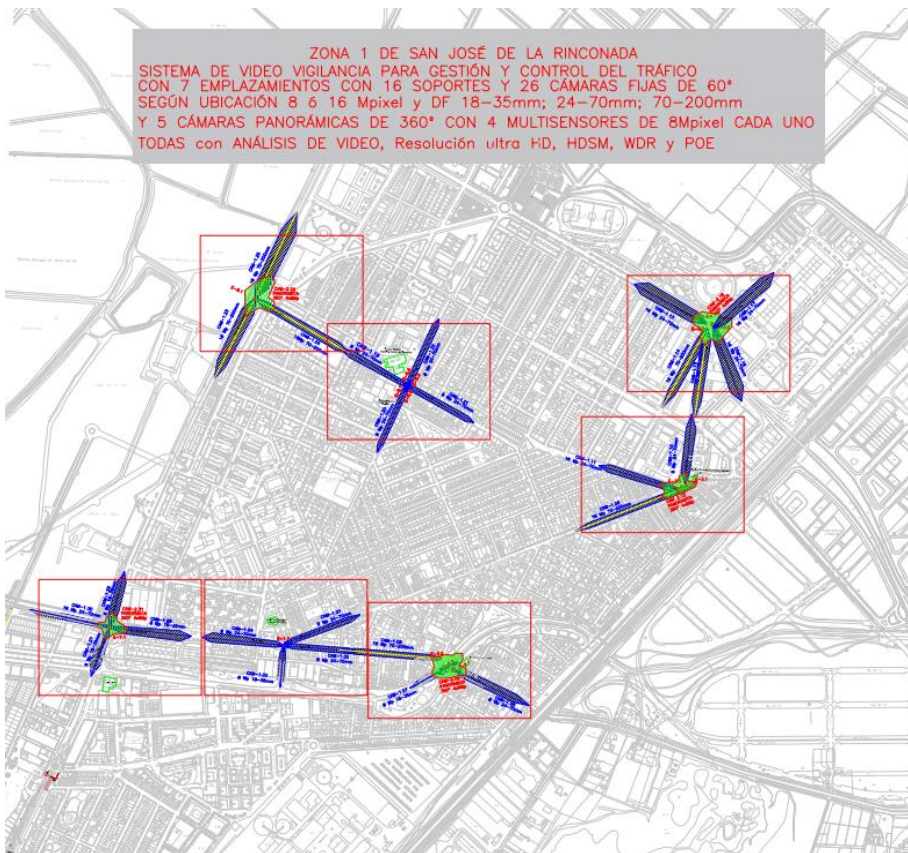
4. LOCATIONS AND COVERAGE

The installations carried out in this project will be located in the following areas, divided into the 2 clearly delineated municipal areas of La Rinconada:

AREA 1: SAN JOSÉ DE LA RINCONADA:

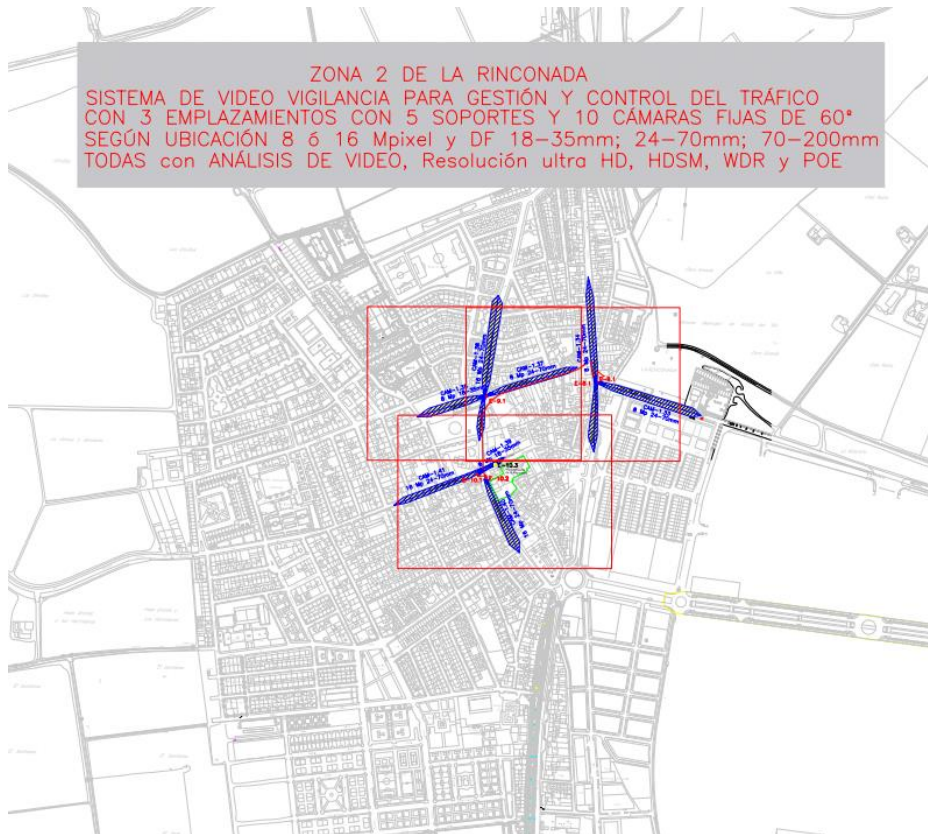
- LOCATION 1: In the corner of Calle San José and Calle Ctra. Bética.

- LOCATION 2: In the corner of Calle San José and Calle Paseo Almonazar.
- LOCATION 3: In the corner of Calle Ctra. Bética and Calle San Juan and Av. Cáñamo.
- LOCATION 4: In the roundabout where the Calle Jardín de las Delicias, Av. Portugal, Av. Cáñamo, Calle Juan de la Cierva, and Calle Narciso Monturiol converge.
- LOCATION 5: Junction of Calle Madrid and Calle Cultura (implemented in the previous phase).
- LOCATION 6: In the corner of Ctra. SE-118 and Calle Madrid.
- LOCATION 7: In the corner of Ctra. SE-118 and Calle San José.



AREA 2: LA RINCONADA:

- LOCATION 8: In the corner of Ctra. SE-117 and Av. Francisco García de la Fuente.
- LOCATION 9: Junction of Ctra. Nueva, Calle Gines, and Calle Cristo de la Resurrección.
- LOCATION 10: Junction of Ctra. Nueva, Calle Manuel Rodas, and Calle Pedro Criado.



5. LICENCE PLATE RECOGNITION SOFTWARE

The proposed video management platform will fully integrate the licence plate recognition software, ensuring centralised hosting across the various servers proposed for processing. The same video management platform manufacturer will implement the system integration and licence plate recognition software to minimise incidents and optimise processing. This will ensure its integration into the Vendor Management System (VMS). Software licences for video management will be installed on the following cameras:

- On the two proposed 5 MPx cameras located in the E-2 and the E-4.
- On the 8 MPx cameras located in the E-1. Camera reference 1.04.
- On the 8 MPx cameras located in the E-5. Camera reference 1.18 (oriented towards Calle Madrid). This camera was installed during the first phase.
- On the 16 MPx cameras located in the E-6. Camera reference 1.23.
- On the 8 MPx cameras located in the E-7. Camera reference 1.27.
- On the 8 MPx cameras located in the E-8. Camera reference 1.33.

6. CAMERAS TECHNICAL SPECIFICATIONS

Attending to the cameras' coverage areas and the resolution needed to solve and guarantee the viewing and recording of images in the two delineated municipal areas, we delimited the video surveillance camera's basic needs to fulfil. Therefore, the minimum cameras' technical specifications will be:

- Image quality ratio higher than 125 pixels/m in the most unfavourable surveillance areas.
- Video Analysis.
- Appearance and description search technology.
- Ultra-HD Resolution.
- HDSM Smartcodec Technology, or similar (High Definition Stream Management), for effective bandwidth and storage management.
- Lightcatcher Technology or similar, which offers excellent image quality in low-light performance (a minimum amount of light of 0.005 lux).
- Wide Dinamy Range (WDR) Technology.
- H.264 video compression.
- Motion JPEG a movement detector with a scalable threshold and sensibility.
- Camera shutters, electronic-controlled: automatic and manual.
- Diaphragm Control: automatic and manual.
- Focus Control: automatic and manual.
- White Balance: automatic and manual.

All fixed cameras will be placed within a protective cover against sun and weather inclements. The fixed cameras and multi-sensor panoramic cameras will include compatible mounts and arms. This ensures that a good aesthetic is maintained in the location environment.

7. VIDEOWALL AND VIDEO SERVICE

To carry out the video, control, and viewing management of the distributed video-surveillance cameras, we count on a workstation equipped with four monitors in the Municipal Police Headquarters Control Room. As we said, this workstation is located in the Police Headquarters Control Room. However, with the aim of visualising and centralising the images from all the cameras, in this second phase of the project, we installed six new cameras in the following municipal buildings:

- Department of Gender Equality Building
- La Estación Youth Centre
- Public Swimming Pool
- Performing Arts Centre (PAC)
- C.P. Ntra. Sra. del Patrocinio State School
- La Rinconada Town Hall

Therefore, the equipment required to complete this project is: Five network video servers, 24 TB each, in a reliable RAID 6 hard drive configuration, with a total throughput of 900 Mbps for video data recording, including appearance and description searches for people and vehicles.



Moreover, we required specific software for the *videowall* to be managed and visualised on this video management platform. This platform provides a wide range of advanced characteristics, which are:

- Show an infinite number of monitors.
- Screen's remote control.
- Importation and exportation of the client's settings.
- In real-time or recorded video supervision.
- Speed and resolution automatically adapt.
- In real-time or recorded video viewing with zoom and in the highlighted areas.
- Transition between real-time and recorded video.
- Patrol control.

- All video sources visualise.
- Drag-and-drop options for video sources.
- Manual activation of the digital outputs.
- Creation of interactive maps.
- Digital zoom and panoramic.
- Mechanical control of the PTZ.
- Search by appearance, description, and unusual behaviours based on self-learning analytics.
- Self-learning video analysis, which detects advanced video patterns.
- Focus of attention to optimise the operative resources.

Within the different self-learning video analyses for the detection and classification of real-time or recorded hypothetical events, we have:

- Objects in the highlighted area.
- Wandered objects.
- Objects crossing the unidirectional or bidirectional beam.
- The object appears or enters in the highlighted area.
- Objects not found in the highlighted area.
- Objects appearing in the highlighted area.
- Objects leaving in the highlighted area.
- Objects stopping in the highlighted area.
- Objects moving in the wrong direction.
- Cameras tempering.
- Inactive scene mode, with reduced quality while events are not detected in the scene.

8. FINAL RESULT

Below, we will display the before-and-after of the implementation of several video surveillance cameras installed in La Rinconada municipality:

LOCATION 2.1: BEFORE THE IMPLEMENTATION	LOCATION 2.1: AFTER THE IMPLEMENTATION
 <p>E-2.3 Farola Existente</p> <p>CAM-1.07</p> <p>54m 4P-FTP Cat. 6 Exterior</p> <p>CANALIZACIÓN Y ARQUETA PRE-EXISTENTE</p>	
LOCATION 2.3: BEFORE THE IMPLEMENTATION	LOCATION 2.3: AFTER THE IMPLEMENTATION
 <p>E-4.3 Farola Existente</p> <p>CAM-1.16 CAM-1.16.02 CON LPR</p> <p>CAM-2.17</p> <p>32mx4P-FTP Cat. 6 Exterior</p> <p>BIENE DE ARMARIO EN E-4.3</p> <p>CANALIZACIÓN Y ARQUETA PRE-EXISTENTE</p>	
LOCATION 4.3: BEFORE THE IMPLEMENTATION	LOCATION 4.3: AFTER THE IMPLEMENTATION



LOCATION 6.1: BEFORE THE IMPLEMENTATION



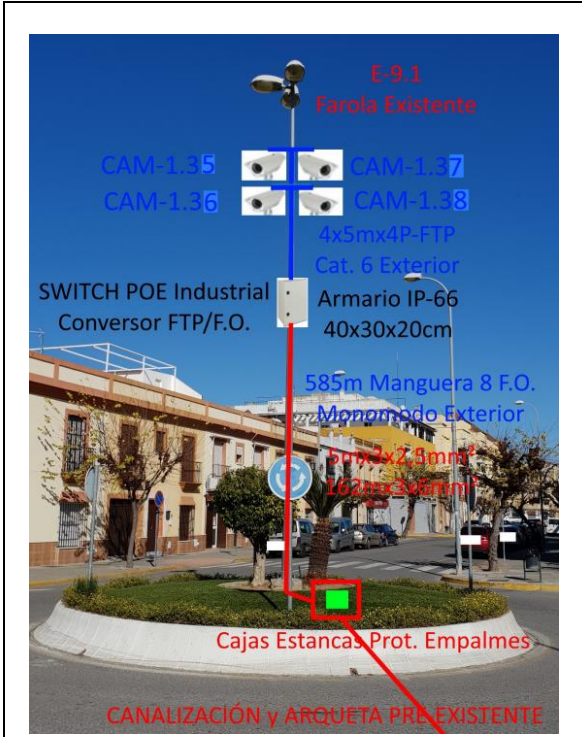
LOCATION 6.1: AFTER THE IMPLEMENTATION



LOCATION 8.1: BEFORE THE IMPLEMENTATION



LOCATION 8.1: AFTER THE IMPLEMENTATION



LOCATION 9.1: BEFORE THE IMPLEMENTATION



LOCATION 9.1: AFTER THE IMPLEMENTATION



LOCATION 10.1: BEFORE THE IMPLEMENTATION



LOCATION 10.1: AFTER THE IMPLEMENTATION



LOCATION 10.3: BEFORE THE IMPLEMENTATION



LOCATION 10.3: AFTER THE IMPLEMENTATION