YEAR IN REVIEW

2022

eu-LISA

FOREWORD

2022 marked eu-LISA's 10th Anniversary, presenting an opportunity to appreciate its achievements and contributions to the effective functioning of the Schengen area. During the past decade, eu-LISA has grown from a small technical agency to the 'digital heart of Schengen'. Today, the Agency drives the digital transformation of the EU's border and migration management systems, and facilitates free movement within the Schengen area.

During the past year, the changes in the political and operational environment stretched the Agency's resilience and capacity to ensure the uninterrupted availability of JHA systems under its management. The Agency put a lot of effort into the development of new systems and the overarching interoperability architecture, which together comprise the one of the world's most complex transformation programmes for integrated border management and internal security. In addition, eu-LISA continued to expand its role in the EU's justice domain by starting preparations for the takeover of the e-CODEX system.

Throughout, eu-LISA strived to be a reliable and capable partner to the Member States and the EU institutions. Considering the resilience and agility demonstrated by eu-LISA in 2022, I am confident that the Agency is standing on a solid foundation to sustain and further improve its successful contribution to the Member States and the EU as a whole. Together as one... We make it happen!

Agnès Diallo
Executive Director

VISION
We strive to provide innovative and practical solutions for the EU's evolving needs while driving the digital transformation in the JHA area
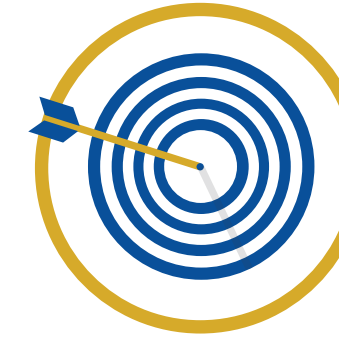
MISSION
Our mission is to support the EU and the Member States in their effort to keep Europe open and secure through advanced technology

CORE VALUES
Our vision and mission are translated into operational activities by applying the core values of accountability, transparency, excellence, continuity, teamwork and first-rate customer service

HEADQUARTERS
Tallinn, Estonia

TECHNICAL SITE
Strasbourg, France

LIAISON OFFICE
Brussels, Belgium

TECHNICAL BACK-UP SITE
St Johan im Pongau, Austria

ACTIVITIES

SUPPORTING THE IMPLEMENTATION OF JHA POLICIES

EU INTERNAL SECURITY

VISA

MIGRATION & ASYLUM

JUSTICE

MANAGEMENT OF JHA SYSTEMS

SIS

VIS

Eurodac

DEVELOPMENT OF NEW SYSTEMS
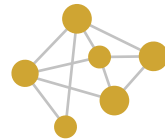
EES

ETIAS

ECRIS-TCN

e-CODEX

Interoperability

24/7 OPERATIONAL SUPPORT

USER TRAINING

INNOVATION & TECHNOLOGY MONITORING

EXPERTISE TO STAKEHOLDERS

PRIORITIES

1 Stable and uninterrupted operations and services of core business systems: SIS, VIS, Eurodac

2 Progress with the implementation of new initiatives and upgrades in accordance with established roadmaps: EES, ETIAS, Revised VIS, Eurodac Recast

3 Timely progress with the Capacity Increase Programme at the Agency's operational site in Strasbourg

4 Further strengthening the Agency's internal control system, with emphasis on quality management, and contract and vendor management

5 Further development and improvement of eu-LISA's programme and portfolio management capability

SYSTEMS IN OPERATION

In 2022, the Agency continued to ensure the stable operation of the EU's core JHA systems – SIS, VIS, Eurodac – and the operational management of the underlying infrastructure, networks and services, complemented by 24/7 support. Excluding some incidents that resulted in short-term unavailability and delays, all systems complied with their respective service-level agreements.

Number of new releases successfully deployed for each system:

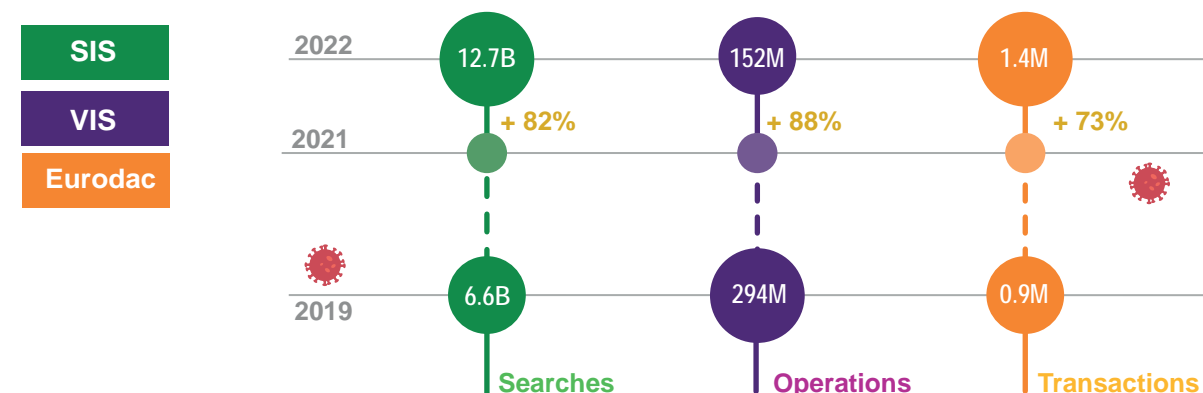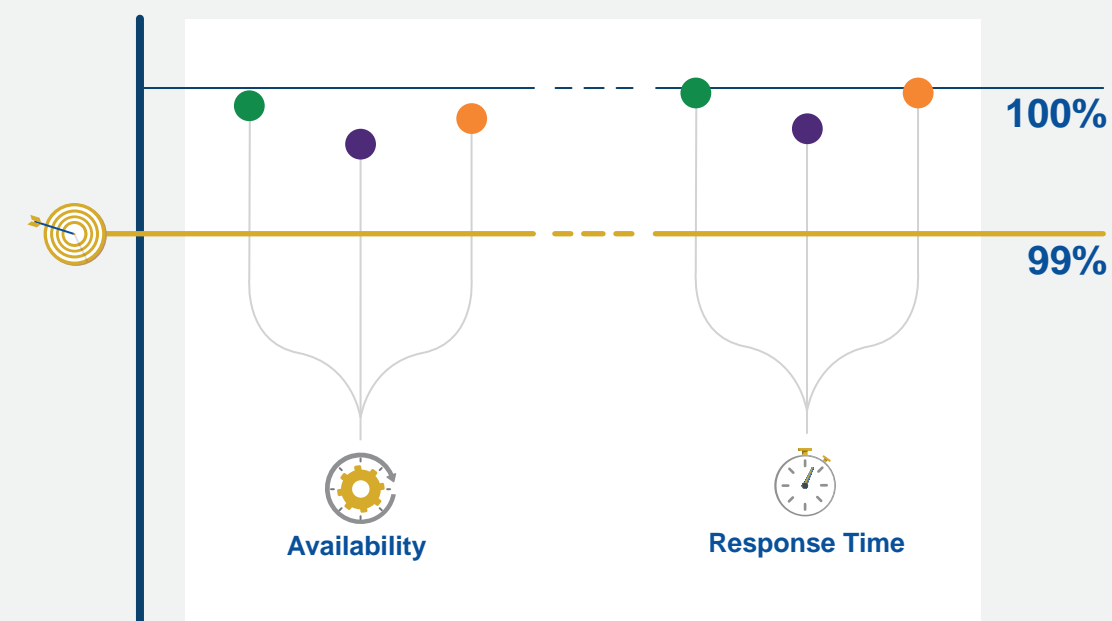SIS ● 1   VIS ● 4   Eurodac ● 1

SYSTEMS USAGE

Following the COVID-19-induced slump, system usage rates have been recovering rapidly throughtout 2022. While SIS and Eurodac have managed to surpass previous annual scores, VIS usage still lags below pre-pandemic levels.

	SIS	VIS	Eurodac
2022	12.7B	152M	1.4M
	+ 82%	+ 88%	+ 73%
2021			
2019	6.6B	294M	0.9M
	Searches	Operations	Transactions

SYSTEMS AVAILABILITY AND RESPONSE TIME*

100%

99%

Availability   Response Time

*as per SLAs

TECHNICAL AND STATISTICS REPORT PUBLISHED IN 2022

- SIS II annual statistics report 2021
- SIS II technical functioning report 2019-2020
- VIS technical functioning report 2019-2021
- Eurodac list of designated authorities 2022
- Eurodac annual statistic report 2021
- Eurodac annual report 2021

SCHENGEN INFORMATION SYSTEM

SIS

Launched in 1995, SIS is the largest information-sharing system between European law enforcement and border control authorities, constituting one of the cornerstones of the Schengen area.
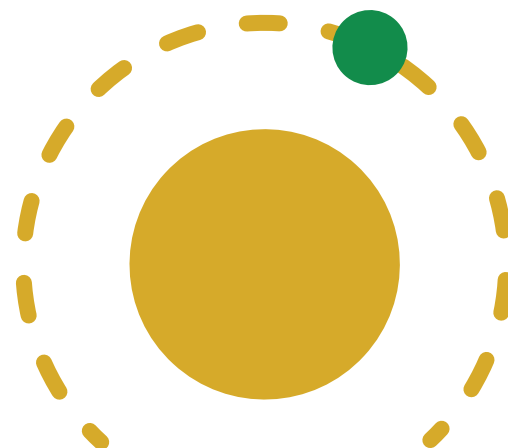
SIS facilitates information exchange about wanted or missing persons and lost or stolen objects, together with instructions for competent authorities on what to do when persons or objects have been detected. As such, it serves as an invaluable tool for combatting cross-border crime and terrorism.

The Agency assumed responsibility for the system's operational management in May 2013, and is responsible for ensuring the efficient performance and evolution of the central system and its communication infrastructure.
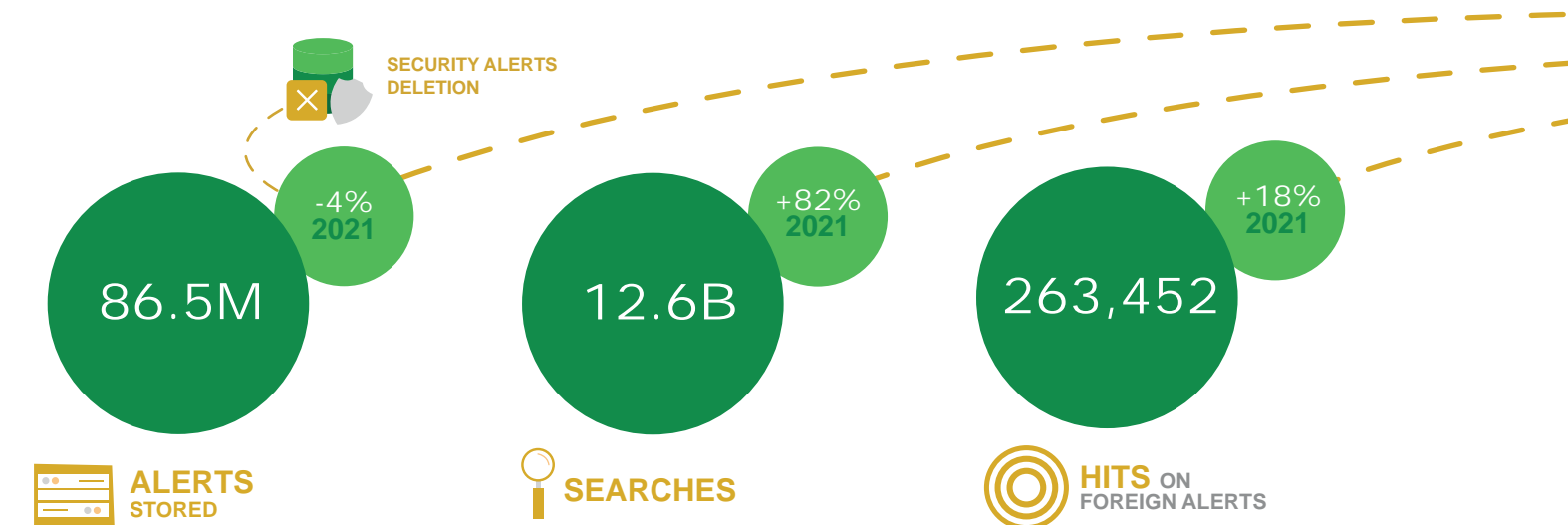
The adoption of SIS Recast Regulations in 2018 ushered in a major phase of developing new alerts and functionalities, culminating with the entry into operation of the renewed SIS in March 2023.

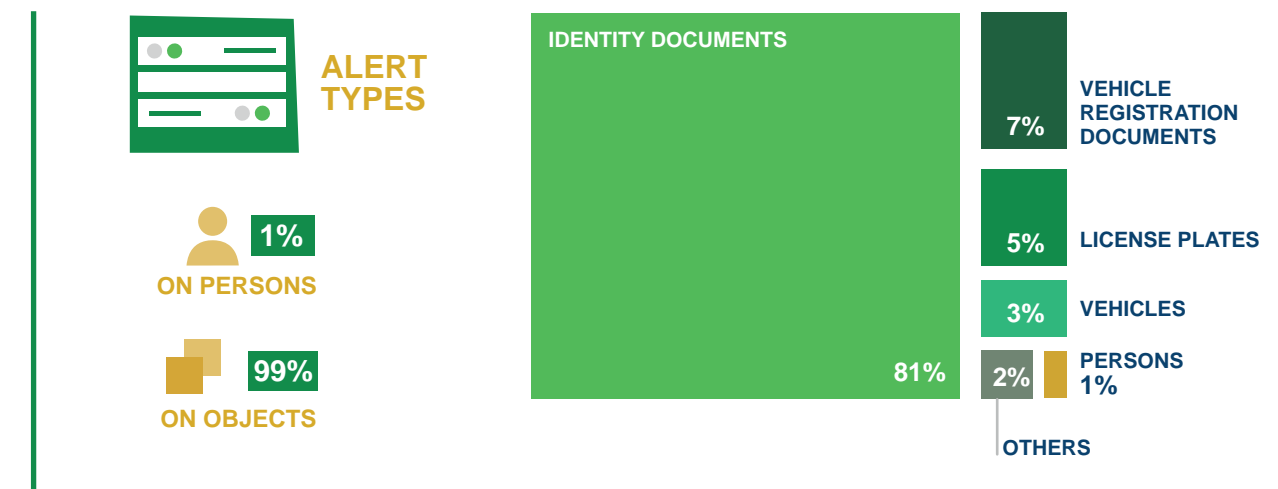In 2022, eu-LISA's main objectives were:

- ensuring continuous system availability,
- delivery of the required evolutions, incl. deploying Elasticsearch, a new search engine to deliver a tenfold increase in search capacity.

SIS IN NUMBERS - 2022

SECURITY ALERTS DELETION

86.5M — -4% 2021
ALERTS STORED

12.6B — +82% 2021
SEARCHES

263,452 — +18% 2021
HITS ON FOREIGN ALERTS

SIS ALERTS BY TYPE

ALERT TYPES

1% ON PERSONS

99% ON OBJECTS

IDENTITY DOCUMENTS 81%

VEHICLE REGISTRATION DOCUMENTS 7%

LICENSE PLATES 5%

VEHICLES 3%

PERSONS 1%

OTHERS 2%

VIS

VISA INFORMATION SYSTEM

As one of the core elements of the Schengen architecture, VIS facilitates the processing of visa applications and the management of short-stay visas for third-country nationals travelling to or transiting through the Schengen area. As such, it supports the implementation of the EU's common visa policy and helps combat visa fraud by assisting in the identification of persons who do not fulfil the necessary conditions for stay or entry.
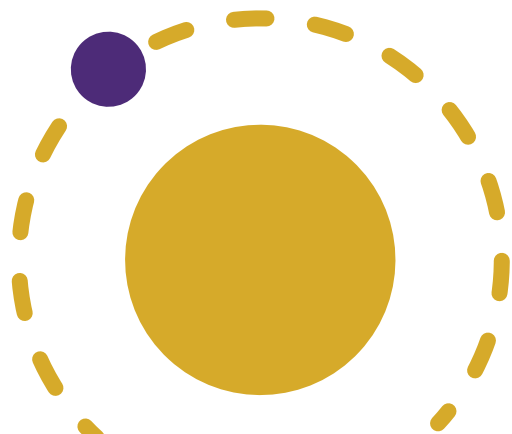
VIS entered into operation in October 2011 and has been operational worldwide since February 2016, connecting the EU's external border crossing points with Member State consulates around the world.

The Revised VIS Regulation, adopted in 2021, gave eu-LISA the mandate to introduce new functionalities to the system and ensure its integration with interoperability components.
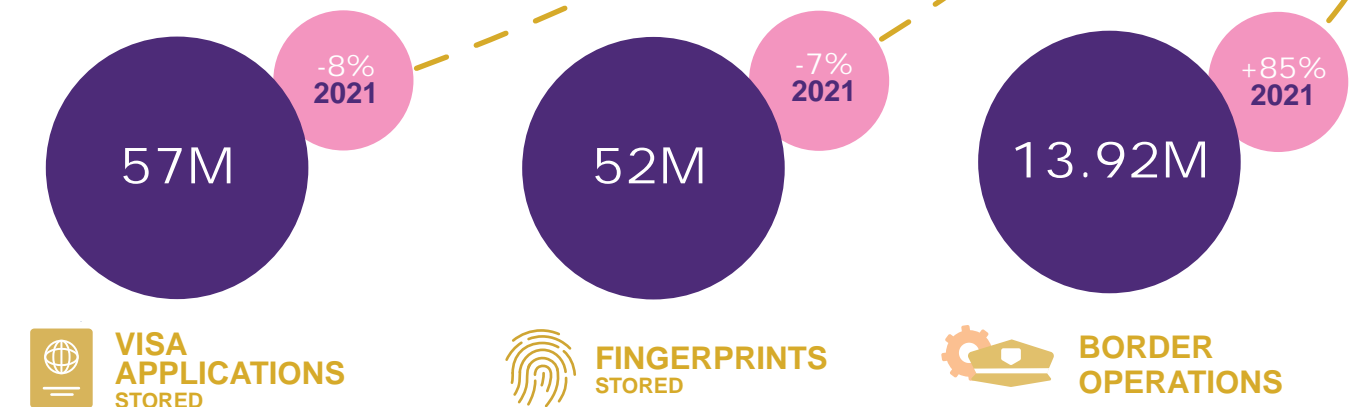
In 2022, two projects were launched by the Agency:

- the expansion of the scope of the system with the **inclusion of long-stay visas and residence permits**,

- the establishment of a **direct connections with EES and ETIAS**.

Over the past couple of years, the usage of VIS has been greatly affected by COVID-19 and related travel restrictions. In 2022, the negative trend started to revert but has yet to reach pre-COVID levels.

VIS IN NUMBERS - 2022

57M — -8% 2021
VISA APPLICATIONS STORED

52M — -7% 2021
FINGERPRINTS STORED

13.92M — +85% 2021
BORDER OPERATIONS

DECLINE IN VISA APPLICATION AND FINGERPRINTS STORED

New visa applications and fingerprints did not compensate for the deleted ones due to COVID-19 still affecting visa applications, and consequently the fingerprints, added to the VIS database.

INTEGRATION OF CROATIA

In December 2022, JHA council endorsed the full application of the Schengen acquis for Croatia. Throughout 2022, eu-LISA worked closely with Croatia to ensure its readiness to make full use of SIS and VIS as of 1 January 2023.

EURODAC

EUROPEAN DACTYLOSCOPY DATABASE

Operational since 2003, Eurodac is the EU database of digitalised fingerprints for the management of asylum applications in accordance with the Dublin Regulation. The system assists in establishing the responsible Member State by determining whether the applicant has previously claimed asylum in another EU country.

The Agency has been in charge of the operational management of Eurodac's central system since June 2013. To better combat irregular migration, eu-LISA is preparing to undertake a major evolution of Eurodac by introducing new functionalities and redesigning its central system. However, these developments remain dependent on the pending adoption of the Recast Eurodac Regulation.

MAJOR UPGRADES
KICKED OFF IN 2022

Capacity Upgrade Project
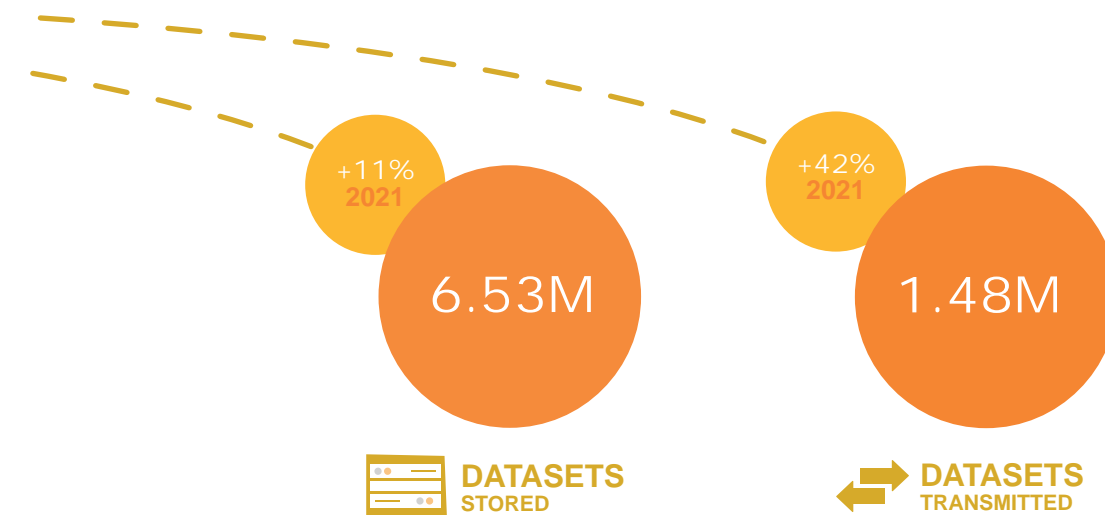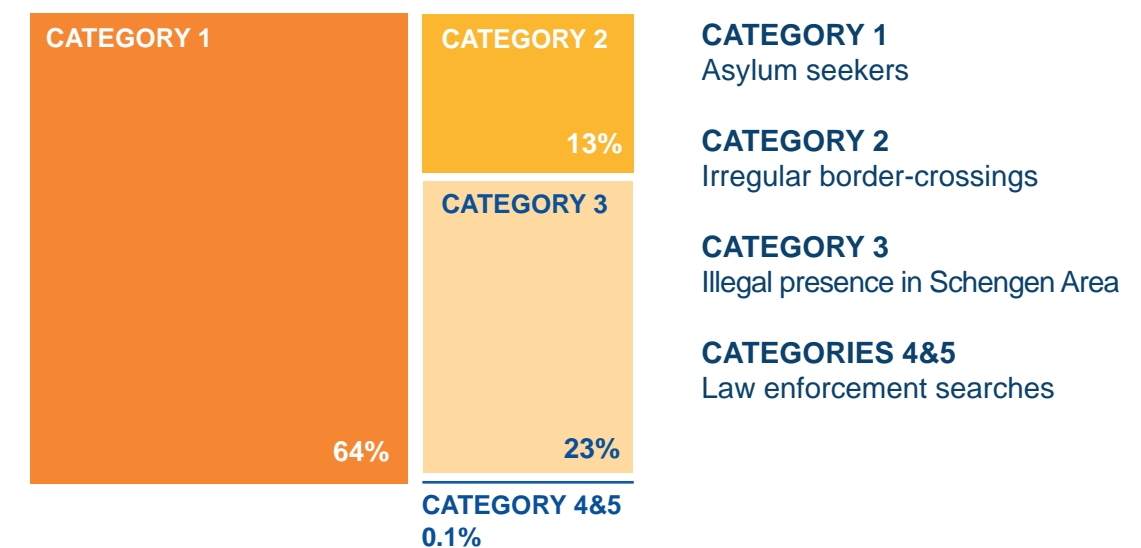Increase storage capacity

7 M ➡ 9 M

Minimal Upgrade Project
Upgrade the system's software and hardware components

FINALISED IN 2023

EURODAC IN NUMBERS - 2022

+11%
2021

6.53M

DATASETS
STORED

+42%
2021

1.48M

DATASETS
TRANSMITTED

DATASET CATEGORIES OVERVIEW

CATEGORY 1	CATEGORY 2
	13%
	CATEGORY 3
64%	23%

CATEGORY 4&5
0.1%

CATEGORY 1
Asylum seekers

CATEGORY 2
Irregular border-crossings

CATEGORY 3
Illegal presence in Schengen Area

CATEGORIES 4&5
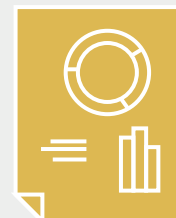Law enforcement searches

NEW SYSTEMS IN DEVELOPMENT

In 2018, eu-LISA was tasked with the development of several new IT systems, together with the **overarching interoperability architecture** for the EU's justice and home affairs (JHA) domain.

In the coming years, eu-LISA is scheduled to launch three new systems – **EES**, **ETIAS**, **ECRIS-TCN** – to complement the EU's existing systems: **SIS**, **VIS**, and **Eurodac**. Once operational, they will further improve the management of Schengen external borders and internal security, while also delivering a more seamless travel experience for international travellers headed for the EU.
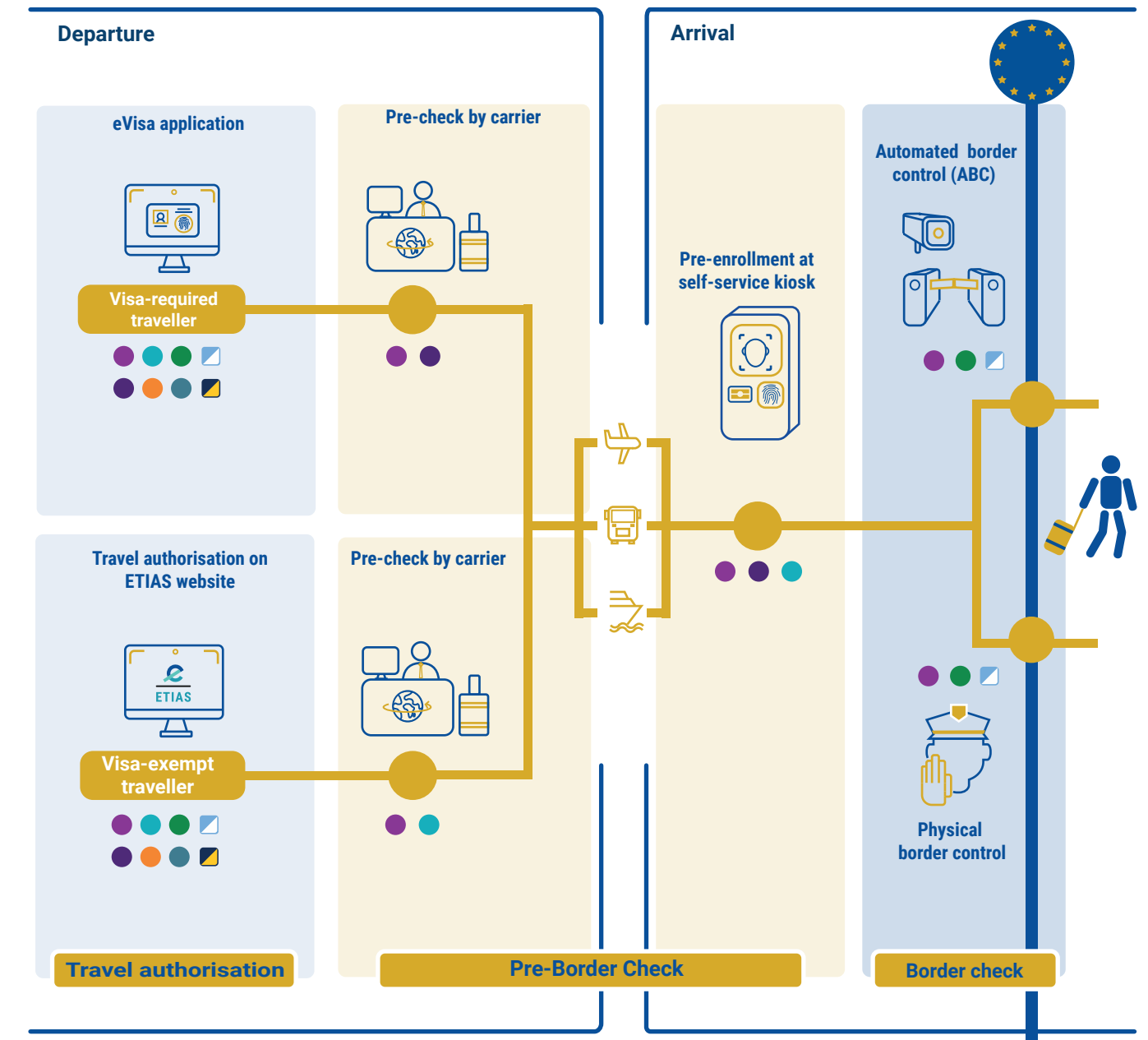
In addition, eu-LISA is also set to increase its contribution to the EU's justice domain by taking over the operational management of the **e-CODEX** system, a digital platform that facilitates cross-border judicial proceedings.

Throughout 2022, the development and delivery of new systems continued despite persistent delays, mainly due to the inability of the contractor to deliver on time. To address these issues, eu-LISA worked closely with the Commission and the Member States, implementing measures to mitigate the impact.

The **traveller continuum infographic** outlines the traveller journey from the perspective of third-country nationals planning a short-stay visit to the Schengen area, presenting how the new systems will contribute to the integrated management of the EU's external borders. The different checks operated automatically by systems and on databases at each step are also highlighted.

THE TRAVELLER CONTINUUM

Departure

Arrival

eVisa application

Pre-check by carrier

Visa-required traveller

Travel authorisation on ETIAS website

Pre-check by carrier

Visa-exempt traveller

Pre-enrollment at self-service kiosk

Automated border control (ABC)

Physical border control

Travel authorisation

Pre-Border Check

Border check

Systems and databases checked at different steps

- EES
- ETIAS
- SIS
- Interpol databases
- VIS
- Eurodac
- ECRIS-TCN
- Europol database

EES

ENTRY/ EXIT SYSTEM

EES will modernise Schengen border control processes by replacing manual passport stamping with electronic registration of all cross-border movements of all third-country nationals entering and exiting the Schengen area. As such, the system will improve the management of increasing traveller flows by streamlining border-crossing procedures and optimising the number of border guards at checkpoints.

EES will also ensure better monitoring of authorised stays and the identification of possible overstayers, thereby curbing irregular immigration and strengthening internal security, while also contributing to the fight against organised crime and terrorism.

EES development started in January 2018 and throughout 2022, eu-LISA continued to mitigate the effects of continued delays, in particular to minimise their impact on the development of other systems and interoperability components.

STEPS FORWARD

- Intermediate release April 2022

- New resolution strategy (3R) adopted in 2023: Remobilise, Resolve, Renew

- New Interoperability implementation roadmap approved by JHA Council in October 2023
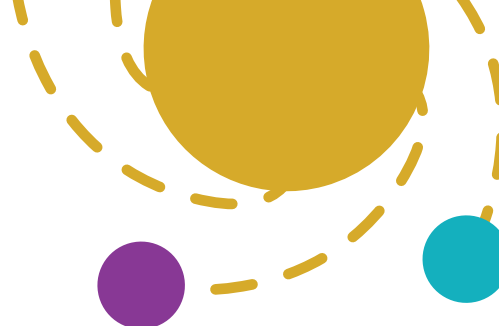
EUROPEAN TRAVEL INFORMATION AND AUTHORISATION SYSTEM

ETIAS

ETIAS is an online travel authorisation system for visa-exempt third-country nationals travelling to or through the Schengen area. This pre-travel screening system compares information across all JHA systems, together with Europol and Interpol databases, for advance verification of potential security, irregular migration or high epidemic risks that may give grounds for denying entry to the Schengen Area.

ETIAS authorisations are checked by air, sea and land carriers prior to boarding and also by border guards at external border crossing points of the Schengen Area. The system is intended to streamline border check procedures and minimise waiting times at the border.

The development of ETIAS started at the end of 2018. However, because of significant interdependencies with EES, the system's development and delivery are contingent on the finalisation and successful entry into operation of that system.

STEPS FORWARD

- New resolution strategy (3R) adopted in 2023: Remobilise, Resolve, Renew

- New Interoperability implementation roadmap approved by JHA Council in October 2023

EES/ETIAS WEB SERVICES

eu-LISA is developing joint web services for EES and ETIAS to integrate and streamline the management of incoming traveller flows to Europe. The carrier interface, depicted below, will enable passenger carriers – air, land and sea – to query both EES and ETIAS to verify whether a third-country national holds a valid visa or travel authorisation for entry to the Schengen area.

EES

ETIAS

VIS
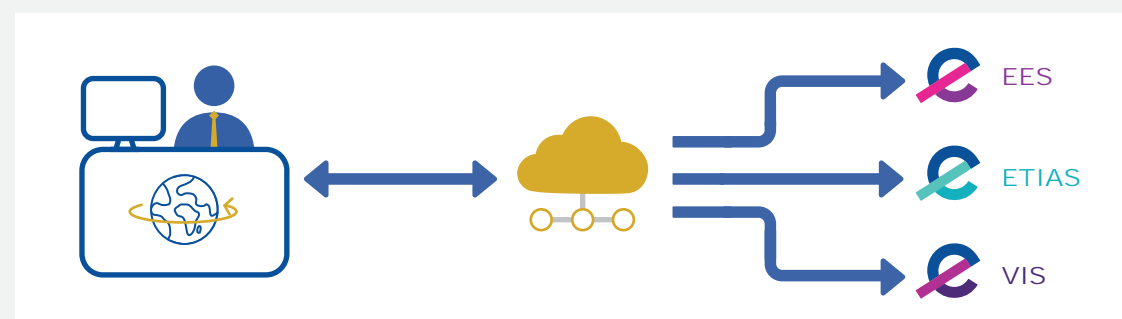
INTEROPERABILITY

Interoperability is the capability of interconnected systems to share data and exchange information. For the past five years, eu-LISA has been developing the new interoperability architecture for the EU's JHA domain to improve the efficient management of Europe's external borders, internal security and migration. This overarching systems interoperability will be enabled by dedicated components that will make it easier for European law enforcement authorities to search and exchange information across all JHA databases and systems managed by eu-LISA: SIS, VIS, Eurodac, EES, ETIAS, and ECRIS-TCN.
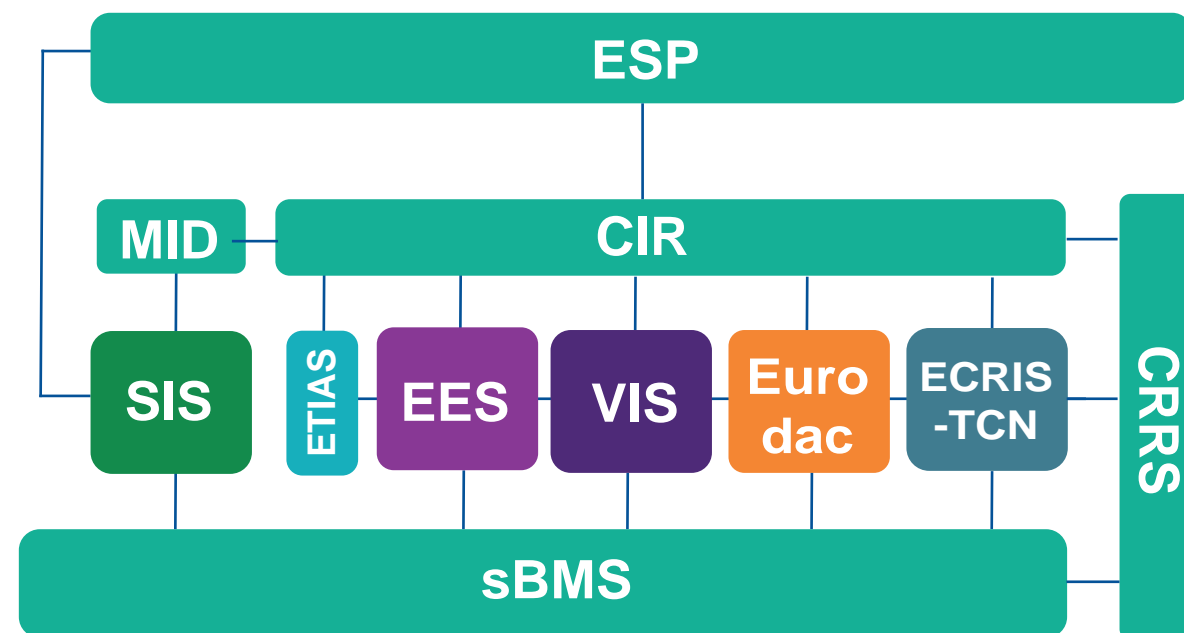
JHA INTEROPERABILITY ARCHITECTURE COMPONENTS

European search portal (ESP), enabling authorised users to conduct single searches and receive results from all JHA information systems they are authorised to access

common identity repository (CIR), a database of biographical information on third-country nationals to ensure reliable identification

multiple-identity detector (MID) for checking whether the queried identity data exists in more than one system, enabling the detection of multiple identities linked to the same biometric data

shared biometric matching service (sBMS) for cross-matching of identity data with biometric identifiers across all JHA systems

As a separate component, the central repository for reporting and statistics (CRRS) will provide cross-system statistical data and analytical reporting on all systems for policy, operational and data quality purposes.

# ECRIS-TCN

European Criminal Records Information System – Third-Country Nationals

Under EU law, national courts must take into account previous convictions when passing sentences in criminal cases. The European Criminal Records Information System (ECRIS), operational since 2012, is a decentralised system for exchanging information on criminal records between EU Member States.

ECRIS-TCN is a centralised hit/no-hit system, supplementing ECRIS with information on criminal records of third-country nationals (TCN) convicted in the EU. Together these two systems will help judges, prosecutors and other relevant authorities obtain comprehensive information on the criminal history of TCNs, regardless of the Member State where they were previously convicted.

As a result, ECRIS-TCN will also contribute to implementing the principle of mutual recognition of sentences and judicial decisions in the common area of freedom, justice and security. As part of the JHA interoperability architecture, ECRIS-TCN will be connected to the interoperability components, enabling searches across all JHA information systems.
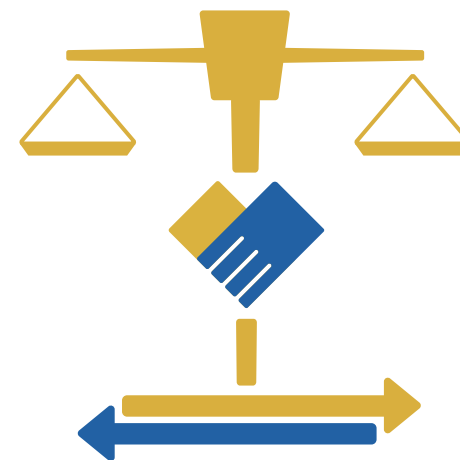
e-CODEX

In operation since 2016, e-CODEX provides the digital infrastructure for secure and interoperable communication and data exchange between European judicial authorities and legal professionals in cross-border judicial proceedings, ensuring a more efficient judicial process for citizens and businesses across Europe.

Thus far, e-CODEX has been deployed in IT solutions used by national judicial authorities and other legal professions for exchanging procedural documents such as European payment orders and arrest warrants.

Following the adoption of the e-CODEX regulation in May 2022, eu-LISA has been preparing to take over the platform operational management in 2023. For eu-LISA, assuming responsibility for the management of e-CODEX is an important step in its evolution to spearhead the European-wide effort in the digitalisation of justice.

DIGITALISATION OF JUSTICE

In 2020, the European Commission launched the initiative for the digitalisation of justice with the aim of improving cooperation between European judicial authorities, while also providing better access to justice for citizens and businesses across the EU.

In recent years, eu-LISA has been stepping up its contribution to the justice domain, primarily in terms of digital solutions to facilitate cooperation in cross-border civil and criminal proceedings.

INNOVATION RESEARCH DEVELOPMENT

eu-LISA proactively monitors research activities and technological innovation in the areas of large-scale IT systems to deliver high-quality services, while also testing novel technologies and solutions. The acquired expertise is then shared with the relevant stakeholders through publications, conferences, and trainings.

PUBLICATIONS

- 'Enabling Seamless Travel to the European Union'
- Joint report with **Eurojust** on the use of AI solutions to support cross-border cooperation in criminal justice
- Scientific paper on the quality of operational fingerprint data

INDUSTRY ROUNDTABLES

- June 2022
  Biometric Technologies in Identity Management and Verification
- October 2022
  EES, ETIAS and Carriers Getting Ready for the Entry into Operation
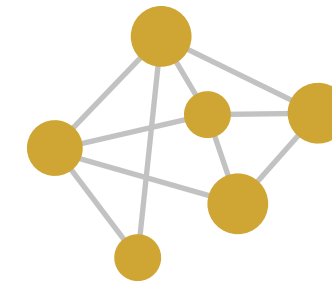
ARTIFICIAL INTELLIGENCE

- VisaChat proof-of-concept
- Internal Roadmap for Artificial Intelligence
- Working Group for Artificial Intelligence (WGAI)
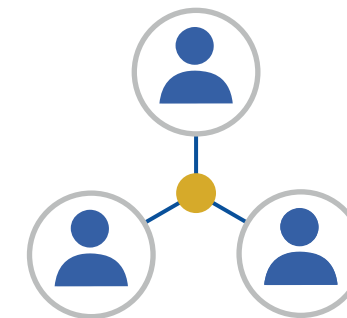
STAKEHOLDER ENGAGEMENT

- Roadmap for Standardisation for Data Quality Purposes
- EU Framework Programme for Research and Innovation
- EU Innovation Hub for Internal Security

## JHA SYSTEMS TRAINING TO MEMBER STATES

- 48 Training Activities
- 2800 Participants
- 90% Satisfied with the training

INFRASTRUCTURE AND NETWORK

All information systems managed by eu-LISA are hosted in data centres, whereas the connectivity between the systems and their end-users is enabled by the communication infrastructure running on the core network.

INFRASTRUCTURE AND DATA CENTRE
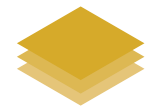
COMMON SHARED PLATFORM | scalable and standardised infrastructure platform for providing the underlying technical services needed to run all IT systems managed by eu-LISA

- New high-performance storage system solution
- New process for adaptive maintenance to ensure up-to-date systems

DATA-CENTRE-AS-A-SERVICE (DCaaS) | approach adopted to increase operational efficiency

Optimisation of data centres to accommodate future capacity needs

Preparations for new containerised modular data centre

NETWORK

High level of security through additional layer of encryption

> 99% availability across all 3 communication domains managed by the Agency (SIS, SIS Sirene, VIS, Eurodac, EES, ETIAS, ECRIS)

DIRECT SUPPORT TO OPERATIONS

SYSTEMS OPERATIONS SUPPORT

eu-LISA Service Desk provides 24/7 support to end-users to ensure uninterrupted service provision.

Service Desk Performance Indicator   75%

82.37%

Based on:
- Time to respond to notification from end-users
- Time to resolve the issue

SECURITY AND BUSINESS CONTINUITY

Ensuring the security of the EU's JHA information systems and the safety of the sensitive data hosted are among the Agency's highest priorities

- Establishment of computer security incident response team (CSIRT) on cooperation procedures for security incidents affecting interoperability
- Enhanced monitoring of the security threat landscape in the context of Russia's war of aggression against Ukraine
- SIS security and business continuity exercise in October 2022 and cybersecurity exercise in November

PARTNERSHIP WITH OTHER EU AGENCIES

◆ Areas of Cooperation

● Main focus for 2022

EUAA
◆ Exchange of statistics, cooperation on asylum and DubliNet related issues, and cooperation in ICT and administrative matters

● Implementing the Commission regulation on the 'DubliNet' electronic communications network

ENISA
◆ Access to IT security, business continuity and administrative cooperation

● Practical implementation of the EU's cybersecurity legislation

CEPOL
◆ Training users of IT systems under the core mandate of eu-LISA

● Organising joint training courses on large-scale IT, both existing and new, as well as on the interoperability architecture

EUROPOL
◆ Access to IT systems, training and administrative cooperation

● Implementing the revised SIS, EES, ETIAS, and Interoperability regulations

EASA
◆ Information exchange with air carriers

● Support the implementation of the EES and the ETIAS Regulations

FRONTEX
◆ Exchange of statistics, security of IT systems and research and development

● Implementing EES,ETIAS and Interoperability regulations

FRA
◆ Research on biometrics and adm cooperation

● Organise joint training courses on human rights implications of large-scale IT systems and cooperation for reports on topics of mutual relevance

EUROJUST
◆ Administrative cooperation and access to IT systems

● Implementation of ECRIS-TCN and e-CODEX, the Interoperability regulation, coordination of digitalisation of judicial cooperation

EIGE
◆ Cooperation on cybersecurity, resilience and business continuity matters

GOVERNANCE AND COMPLIANCE

The governance function ensures that eu-LISA operates in compliance with the EU regulatory framework by applying sound and transparent administrative practices. The Agency actively and continuosly strives to optimise its services and processes to achieve its strategic objectives.

Common Assessment Framework (CAF)
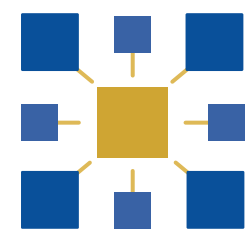
- Total quality management system tailored specifically for public administration organisations
- 2022 improvement plan, detailing long-term development priorities
- Application for the label of 'Effective CAF User' certified in May 2023

DATA PROTECTION

As an Agency responsible for processing sensitive personal data, ensuring data protection is one of the highest priorities for eu-LISA

- Ensuring high-level of data protection, working closely with the European Data Protection Supervisor (EDPS)
- Drafting data protection impact assessments (DPIAs)
- DPO Annual Work Report 2021
- Establishment of the register of processing activities carried out on behalf of one or more controllers

FINANCIAL AND HUMAN RESOURCES
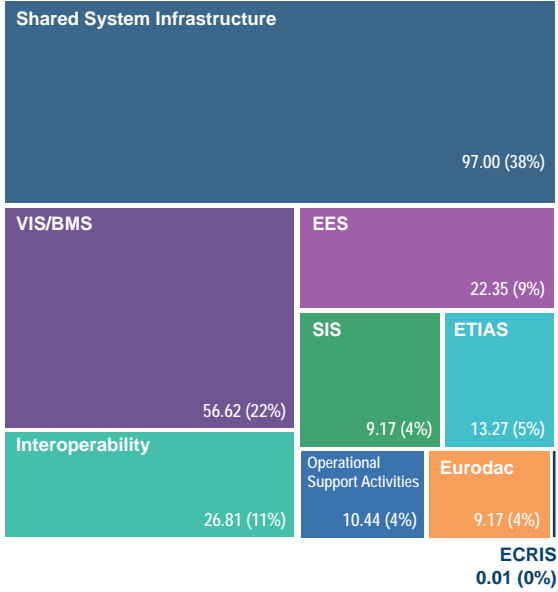
TOTAL EXPENDITURE
291.29 M

STAFF EXPENDITURE
41.22 M

INFRASTRUCTURE and OPERATING EXPENDITURE
25.49 M

OPERATIONAL EXPENDITURE
252.93 M

OPERATIONAL EXPENDITURE BREAKDOWN (in millions)

- Shared System Infrastructure: 97.00 (38%)
- VIS/BMS: 56.62 (22%)
- EES: 22.35 (9%)
- SIS: 9.17 (4%)
- ETIAS: 13.27 (5%)
- Interoperability: 26.81 (11%)
- Operational Support Activities: 10.44 (4%)
- Eurodac: 9.17 (4%)
- ECRIS: 0.01 (0%)

	Temp. Agents	Contract Agents	Second-National Experts	TOTAL
HUMAN RESOURCES (posts occupied)	192	121	11	324
ADDITIONAL STAFF	7			7
TOTAL STAFF	199	121	11	331