

Issue Number 5 February 2026

PARSEC Final Demonstration at IMEC, The Hague

The Hague, Netherlands • 11 February 2026

The PARSEC project successfully held its Final Demonstration on 11 February 2026 at the International Mail & E-commerce Centre (IMEC), PostNL, in The Hague, Netherlands. This landmark event marked the culmination of 41 months of collaborative innovation and represented the final validation milestone of the project, bringing together technology developers, operational end-users, and high-level EU institutional representatives to witness PARSEC's integrated system-of-systems in action.

About the Event

The Final Demonstration was organised by PostNL and DCA, with coordination support from CBS and all PARSEC partners. The event programme combined live technology demonstrations, data science showcases, and interactive Q&A sessions, offering attendees direct insight into the operational maturity and practical readiness of PARSEC innovations.

~50 participants

including representatives from:

European Commission (DG HOME · DG TAXUD) | REA | JRC

Project partners · Customs authorities · Postal operators · Industry experts

Programme Highlights

The day was structured around three main demonstration blocks, each presenting a core pillar of the PARSEC system-of-systems architecture:

- **System-of-Systems & Simulation Tool:** Live demonstration of PARSEC's integrated architecture and the Parcel Flow Simulation Tool, illustrating how the three detection technologies interact within a single coordinated workflow processing up to 40 million parcels per month.
- **Data Science in Action:** Presentation of the advanced AI-based risk assessment algorithms developed by BCA (Belgian Customs), Transcrime, and Hurricane Commerce, demonstrating how data-driven targeting can identify suspicious consignments within high-volume parcel flows.
- **Detection Technology Demonstrations:** Live and interactive showcases of four cutting-edge technologies: the multi-energy photon-counting X-ray detector by Varex Imaging (first-line, 1 second per parcel); the Computed Tomography X-ray system CTiX by Smiths Detection (second-line, 3D



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content analysis); the X-ray Diffraction platform by HALO X-Ray Technologies (third-line, atomic-level material identification); and the data analytics platform by Tech Hive Labs.

Detection Technologies: Key Performance Parameters

The three non-intrusive inspection technologies demonstrated at IMEC collectively enable 100% parcel coverage — compared to the approximately 1% achievable through conventional physical inspection alone:

| Technology | Role Performance |
|--|---|
| Varex Imaging (Multi-energy photon-counting) | 1st-line high-speed screening 1 sec/parcel |
| Smiths Detection CTiX (Computed Tomography) | 2nd-line 3D content analysis 5 sec/parcel |
| HALO X-Ray Technologies (X-ray Diffraction – XRD) | 3rd-line molecular identification 10 sec/parcel |

Operational Context: IMEC Sorting Centre

The IMEC facility, operated by PostNL in The Hague, provided an ideal real-world setting for the Final Demonstration. DCA handles international e-commerce parcels entering the Netherlands and applies a hybrid risk profiling approach combining the DECO electronic declaration system with on-site customs expertise. The presence of DCA and PostNL staff throughout the event ensured that all demonstrations were grounded in genuine operational conditions.



Participants had the opportunity to observe parcels being prepared and scanned using PARSEC technologies, engage in Q&A sessions with technology developers and customs experts, and review the risk assessment outputs generated by the integrated data science pipeline. The demonstration confirmed the system's readiness for deployment and its capacity to significantly enhance detection rates without disrupting legitimate parcel flows.

Significance for European Postal Security

The Final Demonstration represents more than a technical milestone. It is evidence that a coherent, multi-partner system-of-systems approach to postal security — combining data analytics, AI-based risk profiling, and layered non-intrusive inspection technologies — is operationally feasible at scale.

The presence of DG HOME, DG TAXUD, REA and JRC representatives at the event signals strong institutional interest in PARSEC outputs, and the feedback received during the day's sessions will directly inform the project's final policy and standardisation recommendations, published under Deliverable D6.3.

"The Final DEMO marked a major milestone for the project, providing partners with the opportunity to showcase the maturity of the developed technologies and their integration within the system-of-systems architecture."

— **PARSEC Consortium**

What Comes Next

With the Final Demonstration successfully completed, the PARSEC consortium is now finalising its three core WP6 deliverables: D6.2 (Training Modules for customs authorities, postal operators and express couriers), D6.3 (Policy and Standardisation Recommendations), and D6.4 (updated Dissemination, Communication and Exploitation Plan). The project will formally conclude in April 2026 with the Final Review meeting in Brussels.

A recording of the Final Demonstration is available upon request to the PARSEC Coordinator. For more information, visit the project website or contact CBS directly.

 www.parsec-project.eu