

# 2025: a decade of innovation for **SGS D-TECT®**

# 10 Years

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# SGS

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When you need to be sure

# Welcome

It seems just like yesterday that the scanner team began its digital transformation journey. Since then, the path has included rapid change, discovery and reinvention, all focused on a clear objective: delivering consistent, high-value digital services to our customers.

This edition of the newsletter is dedicated to product development and the service transformation journey. Discover how our team is pushing the boundaries of technology while adapting our non-intrusive inspection services to keep pace with an ever-changing global market.

From cargo to parcel, from X-ray to muon imaging and through continued AI experimentation, 2025 was a pivotal year for strengthening our capabilities and delivering one-of-a-kind solutions.

Looking ahead, we are excited about what 2026 holds for both our current and future customers. Our team is already building a strong, forward looking pipeline of new features that will deliver value both this year and for many years to come.

Happy reading!



**Barbara Soto**

Business Development Director  
Scanner, D-TECT Services

# 2015-2026: D-TECT's customer experience evolution

## SHARING INSIGHTS INTO THE DIGITAL TRANSFORMATION JOURNEY OF SCANNING SERVICES

What began as a seemingly impossible technological ambition has now become the foundation of our future scanning services. The concept was straightforward: digitalize images to centralize them and give customers the ability to analyze scans remotely. At the time, images were still printed and validated through a fully paper-based process.

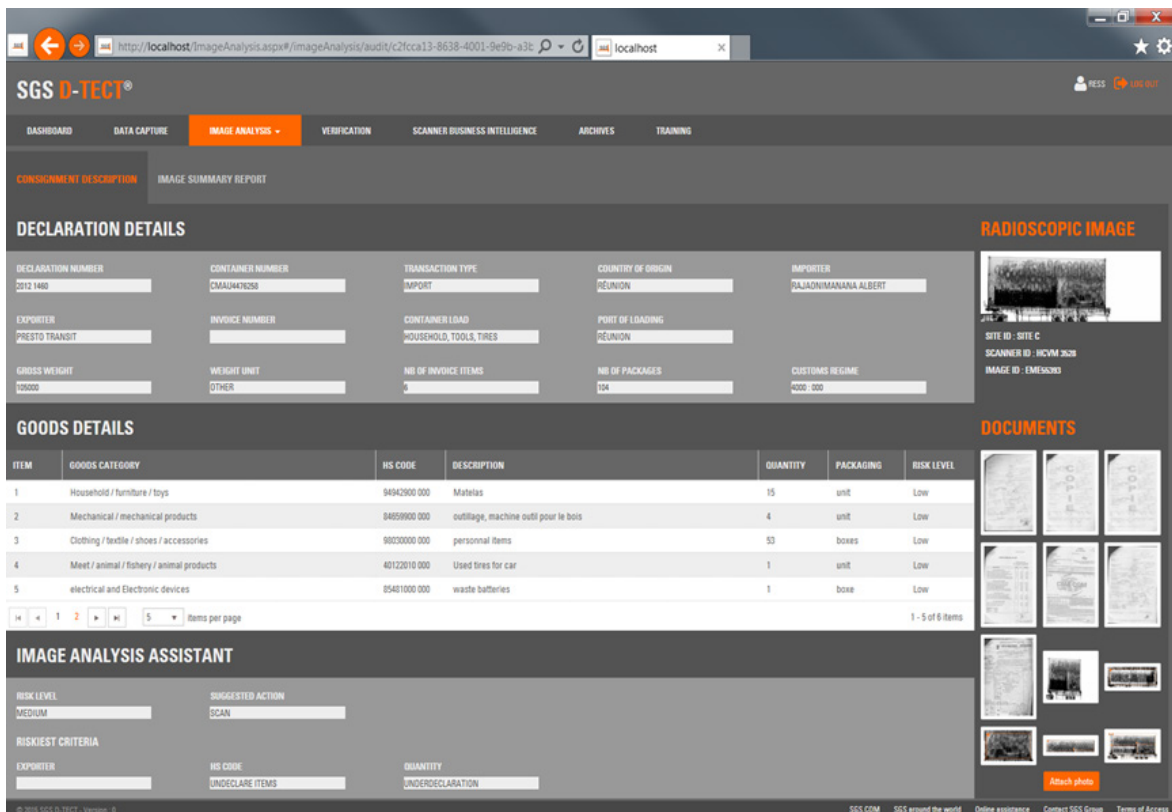
The complexity of the images required advanced tools that were only available on-site, within each machine's proprietary software, and often in remote or isolated configurations. Our first experiments began in mid-2013, at a time when industry

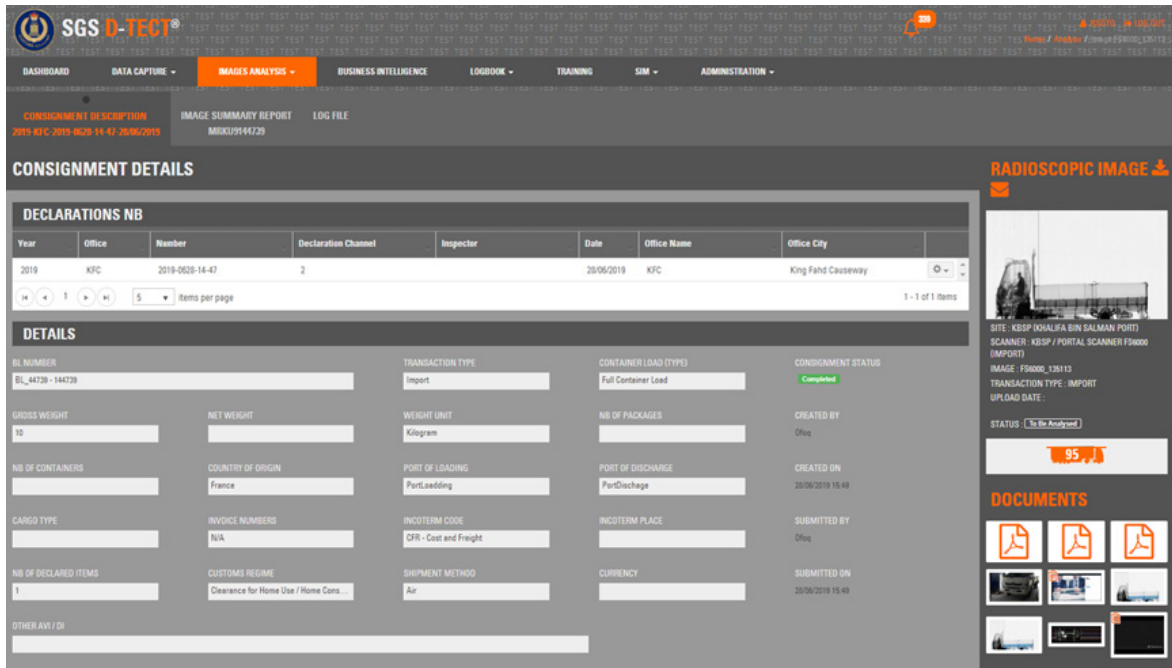
discussions around the unified file format (UFF) were still conceptual and when standardization did not yet exist.

Our initial trials in Madagascar using Smiths' equipment were highly successful and, by the end of 2015, we deployed our first operational setup in Cameroon. Beyond the inherent complexity of the images, we quickly faced the multi-layered requirements of running a 100% scanning operation – from data matching to workflow management and handling multiple trade regimes (imports, exports, transit and empties). These challenges were addressed thanks to a multidisciplinary team of experts, not only in scanning but also in traditional government solutions. Their combined expertise allowed us to adapt the platform rapidly, ensuring broad multi-data capabilities, seamless interfacing with third-party software and smooth integration within customs IT ecosystems.

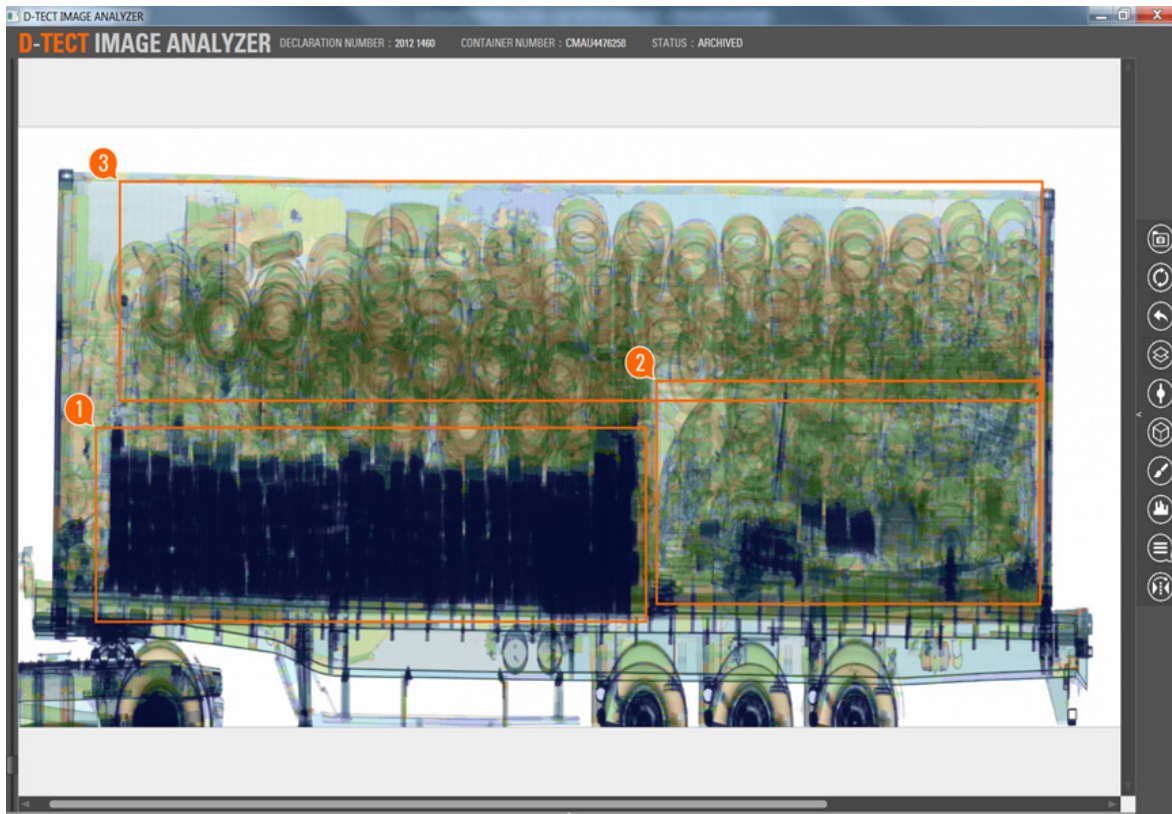
SGS D-TECT soon became a lighthouse for the digitalization of non-intrusive inspection programs, both technically and functionally. When Bahrain Customs came to us with their vision for a smart scanning solution, we quickly evolved D-TECT into a multi-sensor, multi-data platform that opened entirely new possibilities. With the arrival of more structured vision-language models (VLMs) and large language models (LLMs), the D-TECT journey accelerated even further.

Since its creation in 2015, SGS D-TECT has been deployed across diverse landscapes and regions – including Africa, the Middle East and Central America. It has been customized in more than five languages and is currently active in nine locations, delivered either as a full turnkey solution or as stand-alone software as a service (SaaS).





D-TECT Version 1 2018



D-TECT Version 1 2017



# Smarter solutions, seamless innovation

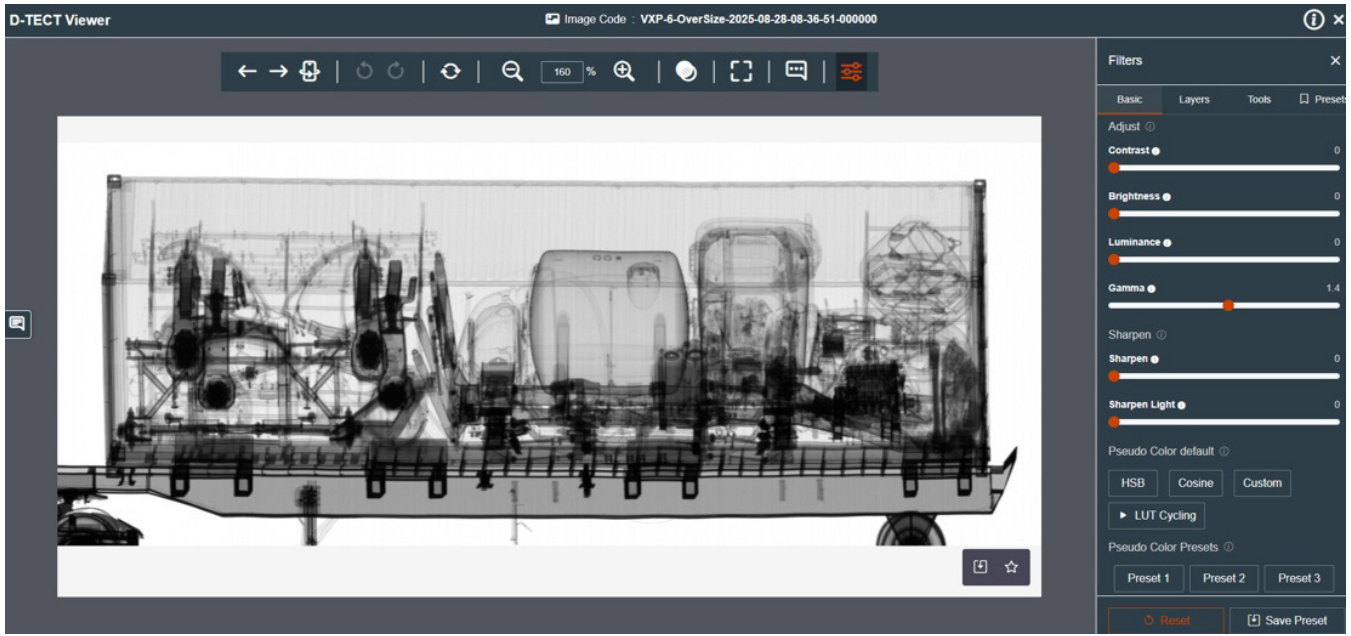


Figure 1: D-TECT Single Web Viewer

We are proud to share how D-TECT® has evolved to make your operations smarter, faster and more intuitive than ever before. Our commitment remains the same: empowering your teams with cutting-edge technology and a seamless, user experience. Here is a closer look at the milestones that shaped this transformation:

## 1. D-TECT WEB VIEWER – INSTANT ACCESS, ZERO HASSLE

Say goodbye to heavy downloads and compatibility headaches! This year, we introduced the D-TECT Web Viewer, a state-of-the-art browser-based solution that puts simplicity and speed at your fingertips.

- No installation required – access instantly from any modern browser
- Runs on any device – including Windows, Mac, Linux and tablets
- Full image quality and transformation capabilities – with no compromises

Powered by WebAssembly, the new viewer delivers the same precision and performance as our desktop app without the complexity. Your teams can now work anytime, anywhere, with a seamless experience that feels as natural as browsing the web.

## 2. A FASTER, SMARTER BACKEND – BUILT FOR THE FUTURE

Innovation does not stop at the surface. Behind the scenes, we have started a major transformation of the D-TECT backend, laying the foundation for a platform that is faster, more scalable and future-ready.

This ongoing project includes:

- Transitioning from .NET Framework 4.8 to .NET 9
- Embracing Linux and Docker for more flexible deployments
- Refactoring legacy code to eliminate technical debt

These changes will unlock greater reliability, improved performance and faster updates, ensuring D-TECT continues to evolve with your needs. The full modernization is on track to be completed by the end of 2026, so stay tuned for further enhancements!

## 3. ONE UNIFIED PLATFORM FOR CARGO AND PARCEL

Managing two separate systems? That is now a thing of the past. This year, we merged our cargo and parcel applications into a single, unified platform, simplifying workflows and creating a consistent experience across all scanning operations.

- One codebase, enabling faster updates and innovation
- Unified interface for all users
- Simplified maintenance and support

With the new web viewer integrated, your teams can now enjoy a streamlined, powerful solution that saves time and reduces complexity.



Figure 2: D-TECT Single Platform Homepage

**WHAT IS NEXT FOR D-TECT?**

We are just getting started! With the backend modernization underway and set for completion by the end of 2026, expect more innovation, smarter tools and enhanced user experiences in the months ahead.

Thank you for being part of the D-TECT journey – we could not do it without you.

Ready to experience the new D-TECT?  
[REQUEST A DEMO](#)

Article by:



**Mamadou Diop**  
 D-TECT Global Business Relationship Manager

# D-TECT: AI-powered OCR for effortless, intelligent data extraction

## DOCUMENT PROCESSING – SMARTER EXTRACTION

We are proud to introduce our new asynchronous service combining high-performance optical character recognition (OCR) and multimodal large language models (LLMs). This technology converts unstructured and low-quality PDFs and images into clean, structured JavaScript object notation (JSON) data, solving a critical challenge in our end-to-end data workflow.



## TECHNICAL WORKFLOW

The process transforms raw files into structured data in three streamlined steps:

### STEP 1: INGESTION AND TRIAGE

**File reception:** the system accepts PDF, PNG and JPG formats.

**Auto-classification:** a lightweight classifier immediately detects the document type and routes it accordingly.

### STEP 2: PARALLEL PROCESSING

#### OCR engine

Extracts raw text, tables and key-value pairs with precise coordinates.

#### Multimodal LLM

Analyzes visual layout, logos and stamps in parallel to understand context.

### STEP 3: EXTRACTION AND STRUCTURING

A final prompt instructs the LLM to merge visual analysis with OCR text to populate the target JSON schema, ensuring high accuracy even for complex layouts.

## KEY CAPABILITIES:

- Support for over 50 languages, including handwriting recognition
- Intelligent layout understanding of complex document structures
- Extraction accuracy optimized specifically for trade documentation
- Multi-page and mixed-format document handling

## BEYOND DATA EXTRACTION

The platform delivers intelligent processing services that go far beyond simple data extraction by transforming raw data into actionable, decision-ready intelligence.

### Translation service Multilingual intelligent translation

Automatically translates goods descriptions into local languages with context-aware trade terminology.

*Workflow: Input > Detection > AI Translation > Output*

### Compliance checking Automated document verification

Verifies pairs of documents for compliance by extracting and comparing test reports with product instructions.

*Workflow: Upload > Extraction > Comparison > Score*

## OPERATIONAL IMPACT

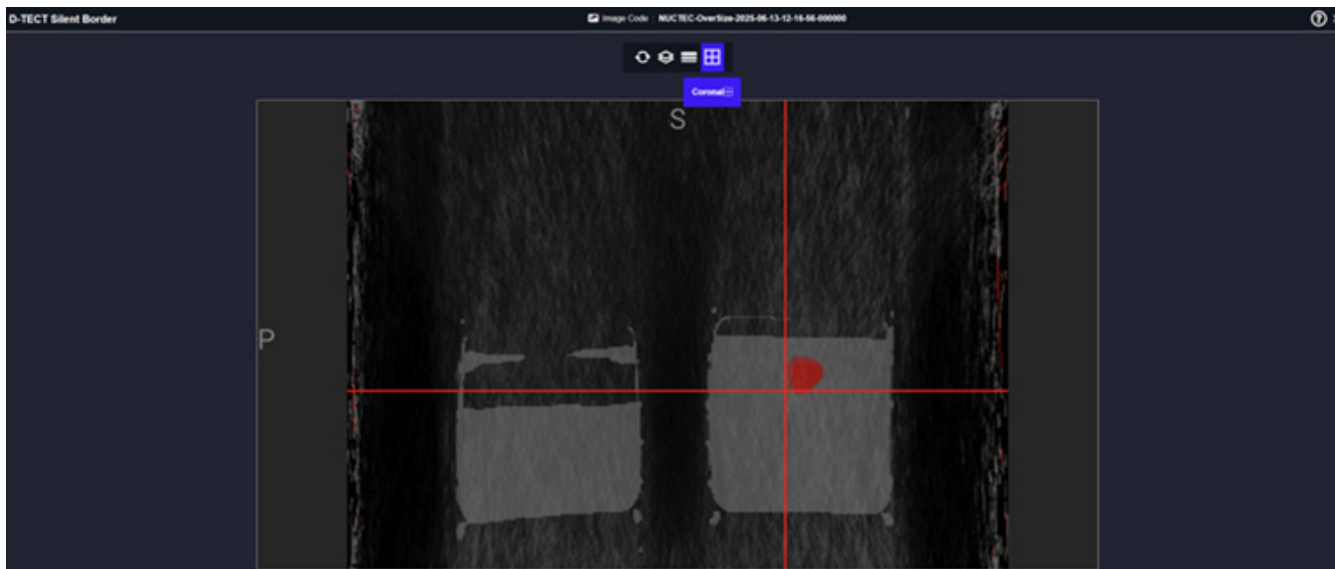
- Eliminates manual data entry and translation effort
- Reduces compliance errors and ensures regulatory adherence
- Accelerates customs processes and automates manifest submission
- Ensures Single Window compatibility and provides an audit trail

Article by:



**Mouzouni Anass**  
D-TECT  
Global Architect

# SilentBorder: cosmic rays for a safer Europe



## AS THE HORIZON 2020 PROJECT CONCLUDES IN JULY 2025, A NEW ERA OF NON-INTRUSIVE BORDER SECURITY BEGINS.

After four years of intensive research and development, the SilentBorder project officially concludes in July 2025. Funded by the European Union, this consortium of 10 partners across eight countries has successfully developed and demonstrated a breakthrough technology for law enforcement agencies: a cosmic ray tomograph, a scanner designed to detect hazardous and illegal goods hidden in trucks and sea containers.

## BEYOND X-RAYS: THE POWER OF MUONS

Traditional X-ray scanning is effective but has limitations, particularly when penetrating dense shielding or distinguishing between specific materials. SilentBorder utilizes Muon Scattering Tomography (MST), a technique using muons – natural, high-energy subatomic particles generated by cosmic rays from space. They constantly rain down on Earth at about one per square centimeter per minute and are completely harmless to humans and animals.

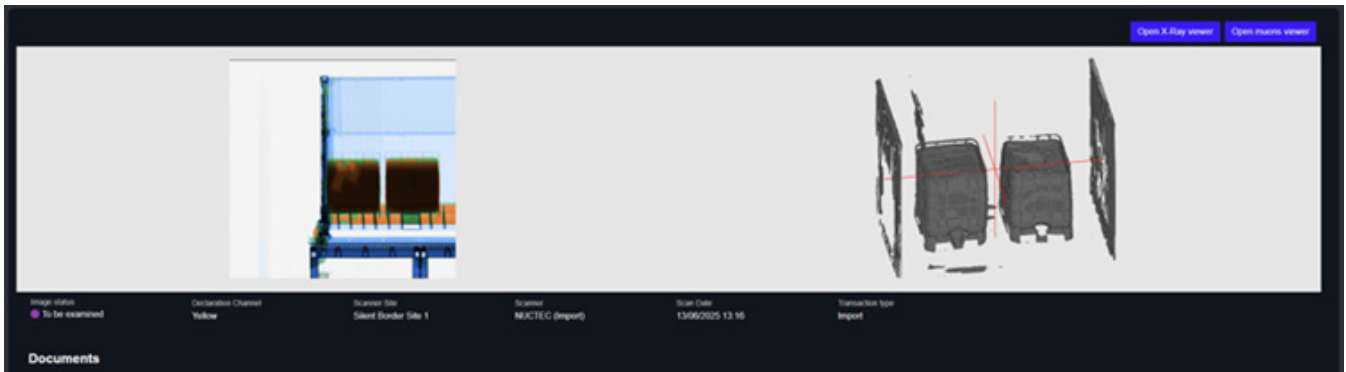
Unlike X-Ray radiation sources, muons are passive. They can penetrate deep into cargo or trucks and are scattered differently depending on the density and atomic number of the material they pass through. This allows the SilentBorder system to 'see' inside heavily shielded containers, identifying nuclear materials, narcotics and contraband that might otherwise remain invisible.

## A UNIFIED SOLUTION: THE SGS D-TECT PLATFORM

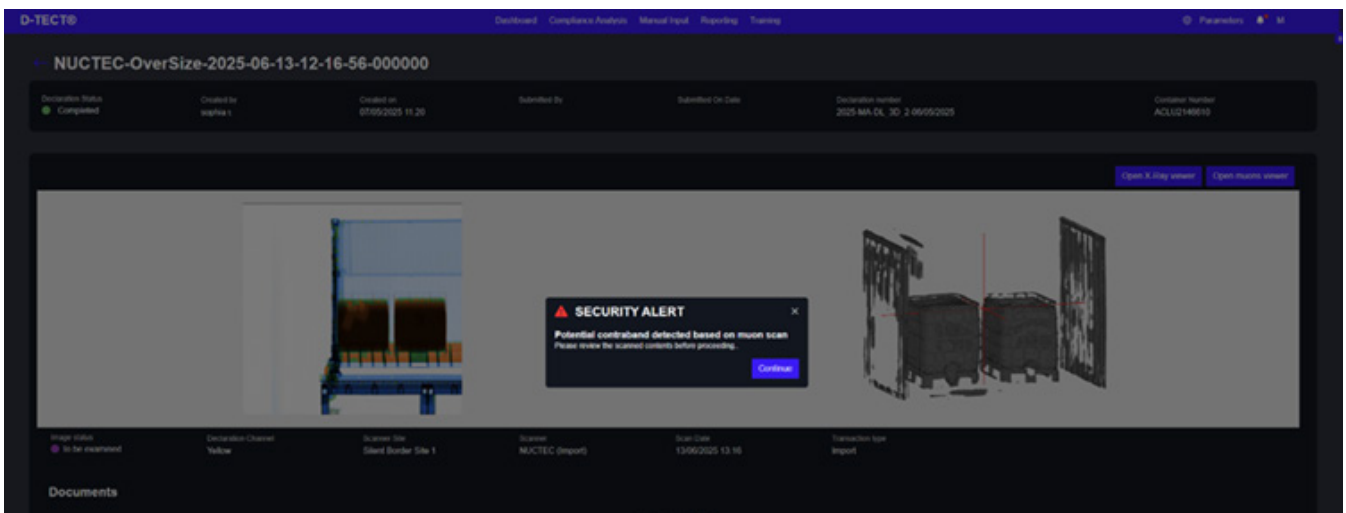
A major obstacle in border security is the fragmentation between scanning technologies. A key achievement of the project was the integration of muon tomography with our SGS D-TECT platform.

By creating a centralized, cloud-based image repository on Microsoft Azure, the project team successfully combined high-resolution 2D X-ray images with 3D muon voxel datasets into a single, unified web viewer. This hybrid approach allows customs analysts to:

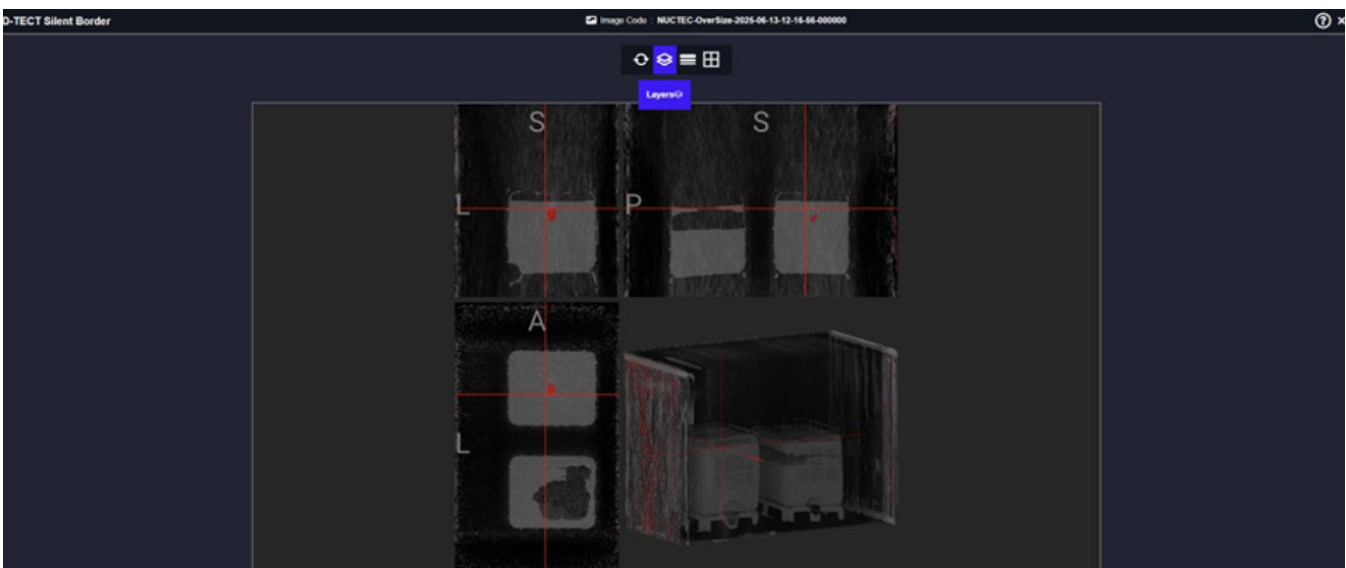
- Seamlessly switch between X-ray and muon views



- Use AI/ML algorithms to automatically classify materials and detect anomalies



- Slice through 3D volumes to pinpoint threats with high precision



- Compare both 2D X-ray and 3D muon images with transactional data from customs declarations

### VALIDATED IN THE FIELD

The technology's maturity was proven during the public demonstration in Tõrvandi, Estonia, on June 19, 2025. Stakeholders and customs authorities witnessed the full workflow in a realistic operational setting thanks to the integration between the GScan muon scanner prototype and the SGS D-TECT platform. The muon prototype demonstrated that it could withstand real-world conditions, providing 3D visualization and material discrimination without generating additional radiation.

### THE ROAD AHEAD

While the grant period ends this July, the technology developed by the consortium, led by the University of Tartu and including key partners like GScan, CAEN, DLR and SGS, is ready for the next step. The project has laid the groundwork for a scalable solution that offers a strategic advantage for European border security.

As we close this chapter, SilentBorder stands as a testament to what European collaboration can achieve: turning the silent, invisible rain of cosmic particles into a robust shield for our borders.

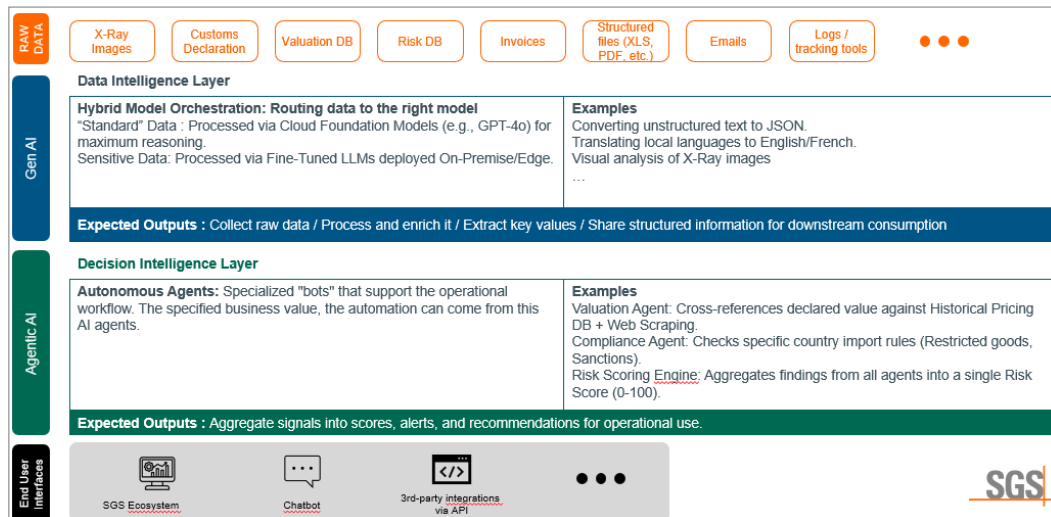
Article by:



**Gautier Huysentruyt**  
D-TECT Global  
Product Manager



# The TFS AI Platform: designing the engine for scalable value



The concept and the architectural blueprint are complete. We have moved beyond the hype of AI to design a system that transforms our business model from selling man-hours to selling instant, AI-verified trust.

We are proud to unveil the comprehensive design of the C&P Trade Facilitation Services (TFS) AI Platform. Our objective during this design phase was not merely to modernize our IT stack, but to architect a fundamental shift in how we create value.

We have designed a solution that decouples revenue growth from headcount, allowing us to handle greater volume with a flat structure. Furthermore, this architecture allows us to enhance our traditional core offerings with new products and generate entirely new revenue streams through software as a service and data as a service (DaaS) models.

## THE VALUE ENGINE: A DUAL-LAYER APPROACH

To move from theoretical AI to tangible business value, we moved away from a monolithic approach. Instead, we have architected a dual-layer strategy that combines the raw power of generative AI with the precision of agentic workflows.

### 1. DATA INTELLIGENCE LAYER (GENERATIVE AI):

- Challenge: trade data is chaotic – messy PDFs, images and unstructured emails
- Value creation: this layer utilizes generative AI (multimodal LLMs and OCR) to act as the clean-up engine. It ingests heterogeneous raw inputs and transforms them into clean, structured digital assets. It turns untidy documents into digital assets, unlocking the data embedded in millions of historical files

### 2. DECISION INTELLIGENCE LAYER (AGENTIC AI):

- Challenge: data alone does not make decisions – experts do. But experts are expensive and hard to scale
- Value creation: this layer deploys autonomous agents, specialized AI bots that apply SGS business logic to the structured data. Whether it is a valuation agent cross-referencing prices or a compliance agent checking restricted goods these agents automate complex decision-making processes

Agents do not just read data – they apply our ground truth to assess risk and compliance, executing critical checks including screening entities, triggering

route anomaly alerts, detecting aliases, applying know your customer (KYC) flags and issuing quantity outlier alerts.

## DESIGNED FOR SCALE: INSIDE AND OUT

This represents the first instance of a scalable framework for TFS.

**Internal scalability:** the API-first architecture allows different SGS regions to plug into these services. A team in Cameroon or the Philippines can consume the classification agent without rebuilding the wheel, driving immense internal efficiency.

**External scalability:** the design prepares us for a future where we monetize the technology itself. Clients can subscribe to our risk engine or valuation check directly via API.

We have finished the design of a platform that does not just improve our current operations – it redefines them. We are ready to turn this blueprint into the future of trade facilitation.

Article by:



**Gautier Huysentruyt**  
D-TECT Global  
Product Manager

# Five questions to uncover D-TECT's customer journey

From Colombia, Andres Quiroga shares his experiences in promoting SGS D-TECT in Central America.

What started as a technical services intervention to support customer-facing challenges with their X-ray images has blossomed into a full SGS D-TECT cargo implementation, marking the first SaaS contract in Latin America.

Andres shares his insights:

## 1. WHAT IS THE EASIEST PART OF SELLING D-TECT?

The easiest part of selling D-TECT is that it almost sells itself once customers see it in action. I still remember my early demos – before I even finished walking clients through the interface, they were saying, "This is exactly what we need." D-TECT immediately removes doubts. It instantly provides clarity, which naturally leads to deeper, more strategic conversations.

## 2. WHAT MAKES D-TECT STAND OUT IN YOUR PORTFOLIO OF PRODUCTS?

D-TECT stands out because it simplifies something that has always felt complex. Interpreting X-ray images is not just about looking at them; it is also about understanding them and then making decisions. D-TECT makes that process intuitive, and the fact that it is SaaS completely changes the discussion. Instead of infrastructure headaches, we talk about scalability, availability and flexibility. That is what places it in a different category.



**Andres Quiroga**  
Product Manager  
- Colombia,  
Centroamérica y Caribe

## 3. WHAT ARE THE MOST CHALLENGING ASPECTS OF THE CUSTOMER SALES JOURNEY?

The biggest challenge is helping customers move past their initial fear of image analysis. Many see it as "too technical" or "too specialized," and sometimes the first thing I need to sell is peace of mind.

Another challenge is alignment with internal teams – operations, IT and compliance – as everyone needs to be on board. However, once they try it and see how it truly simplifies their work, everything becomes much smoother.

## 4. WHAT DO YOU RECOMMEND CUSTOMERS EXPLORE IN D-TECT?

I always encourage customers to explore two areas: the comparison tools that reveal changes over time and the diagnostic capabilities that help explain why something changed. I always tell them to test it with real, everyday cases. That is when they understand that D-TECT is not just a viewer; it is a partner that supports better, faster decisions.

## 5. WHAT IS THE FUN PART OF SELLING D-TECT?

The fun part is seeing the customer's reaction. There is always that moment when they say, "Wait... is it really this easy?" I love that moment because it breaks a long-standing paradigm. Each presentation becomes a small story, and each implementation feels like a shared win. That energy is what makes this job exciting.

## 6. WHAT MAKES YOU FEEL PROUD WHEN PROMOTING D-TECT?

D-TECT reflects the best of SGS: real, practical innovation with purpose. Delivering our first SaaS implementation in Latin America is a milestone I will never forget – a clear demonstration of what becomes possible when we align technology with genuine customer needs.

What makes me most proud, though, is witnessing customers move from uncertainty to confidence. Seeing that transformation firsthand is a powerful reminder of why D-TECT matters and why our work has a real impact.



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