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IMPROVING SECURITY IN AIR CARGO TRANSPORT

*The **EUROSKY** project creates a vision of the future of Air Cargo and European logistics security focusing on security procedures, enhanced by advanced screening technologies, improved information flows and innovative communication and information technology applications. **EUROSKY's main impact** will be the improvement of European air cargo security, safeguarding international supply chains and enhancing the security of air travellers in Europe.*

REPORT

“SECURING AIR CARGO”

1st EUROSKY annual conference

Tuesday, 16th September 2014

Sheraton Milan Malpensa Airport Hotel & Conference Centre



List of Abbreviations

Abbreviation	Definition
ACC3	Air Cargo or Mail Carrier operating into the Union from a Third Country Airport
AEO	Authorised Economic Operator
AWB	Air Waybill
CLECAT	European Liaison Committee of Common Market Forwarders
EASA	European Aviation Safety Agency
EC	European Commission
ETD	Explosive Trace Detection
EPFL	École Polytechnique Fédérale de Lausanne
HBS	Hold Baggage Screening
IACA	International Air Carrier Association
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
KC	Known Consignor
RA	Regulated Agent
TIACA	The International Air Cargo Association
UPS	United Parcel Service
UPU	Universal Postal Union
WCO	World Customs Organization



Agenda

9.30-10.00	Registration
INTRODUCTORY SESSION	
10.00-10.15	Welcome speech, Fernando CALDEIRA-SARAIVA, BMT, EUROSKY Coordinator
10.15-10.30	Welcome speech, Paolo SALIERI, Project Officer, European Commission
SESSION I: SCREENING TECHNOLOGIES	
Moderator: Mark McCARTHY, Rapiscan Systems Limited, EUROSKY partner	
10.30-11.00	EUROSKY technology assessment and development, Mark McCARTHY, Moderator
11.00-11.30	Air cargo from the Supply Chain Security perspective, Ilan BITON, SWISSPORT
11.30-12.00	<i>Graph Databases</i> , Holger TEMME, Neo4j
12.00-12.30	Q&A session
12.30-13.50	Lunch
SESSION II: BIG DATA	
Moderator: David QUESADA, ENIDE SOLUTIONS S.L., EUROSKY partner	
13.50-14.00	David QUESADA, Moderator
14.00-14.30	<i>Big data</i> , Juan MURILLO, Data and Analytics, Banco Bilbao Vizcaya Argentaria
14.30-15.00	Risk profiling with cargo data, Toni MÄNNISTÖ, EPFL
15.00-15.30	Q&A session
15.30-15.50	Coffee break
SESSION III: AIR CARGO REGULATION	
Moderator: Enno D. OSINGA, Senior Vice President Cargo, Amsterdam Airport Schiphol; Vice Chairman, TIACA	
15.50-16.00	Enno D. OSINGA, Moderator
16.00-16.30	Standardisation and harmonisation – how to address current gaps, William BOLEY, CONCEPTIVITY, EUROSKY partner
16.30-17.00	ACC3 impact on cargo security, Michael WOODALL, IATA
17.00-17.30	Customs - aviation security coordination, Asha MENON, WCO
17.30-18.00	Q&A session
18.00-18.15	Conclusions



Introduction:

The EUROSKEY project organised its 1st Annual Conference "Securing Air Cargo" in Milan on the 16th of September 2014. The objective of the conference was to present the early findings of the EUROSKEY project and to spur discussions on the issues imperative to aviation security. The event tackled issues such as screening technologies, big data and air cargo regulations with panellists from Swissport, WCO, Amsterdam Airport, TIACA, Rapiscan, ENIDE Solutions, IATA, and Neo4j among others. The conference gathered more than 50 experts, including partners, representing the major international air cargo organisations, CLECAT, EC, UPS, DHL, WCO, IATA, the EC, as well as airports, airlines, industry and end-user associations.

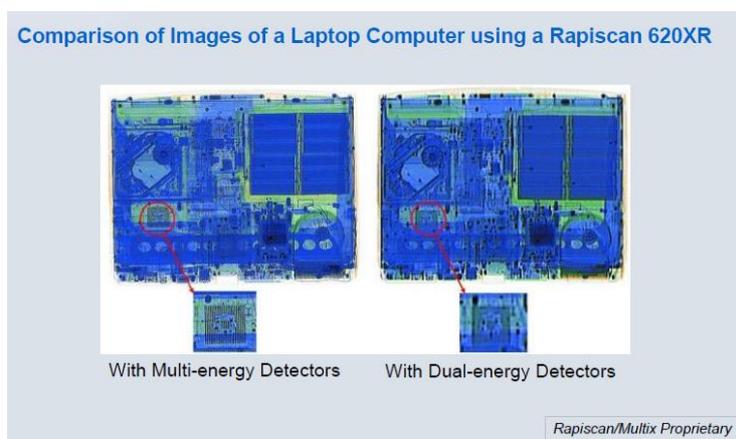
Fernando Caldeira-Saraiva, the research director of BMT and the EUROSKEY project coordinator presented the EUROSKEY project and stressed that *"the most effective weapon against crime is cooperation."*¹

"the most effective weapon against crime is cooperation"

The EUROSKEY project officer from the European Commission, DG Enterprise and Industry, **Paolo Salieri** outlined main policy goals for the aviation security and air cargo principles in the EU. More specifically he focused on the implementation of the EU Joint Action plan on air cargo security that includes the ACC3, coordination with intelligence, international affairs and customs, alignment of Authorised Economic Operator (AEO) and Regulated Agent (RA)/ Known Consignor (KC) programmes, the set-up of an EU system for the exchange of advance cargo information, and the importance of international action and cooperation.

Session I: Screening Technologies

The EUROSKEY project is developing its cargo-inspection technologies for the next-generation screening solution with improved penetration and image quality as shown.



Mark McCarthy from Rapiscan Systems Limited focused in his presentation on the dual-view transmission x-ray systems, the use of multi-energy detectors and mass

¹ Inscription at the FBI Headquarters attributed to J. Edgar Hoover



spectrometry and infrared spectrometry in explosive trace detection among others. The integration of these technologies will ensure that cargo is screened and secured.

Looking at the air cargo from the perspective of supply chain security, **Ilan Biton**, the Security Manager at the cargo terminal at Swissport Tel Aviv, emphasised that in terms of technology, there is a need for more cargo oriented screening devices. A combination of tools is needed to check the weight, volume, barcode and others parameters.

"...there is a need for more cargo oriented screening devices"

The responsibility for the cargo is pushed in the supply chain to the airline. It is important to raise more awareness in supply chain security and to improve the information flow.

"It is important to raise more awareness in supply chain security and to improve the information flow"

Having had previous experience in the area of passengers' security, **Biton** compared it with his present work in a cargo terminal. The air cargo area in the airport is isolated. There are no as many security checks as with passengers and the cargo is given much less attention. There are peripheral gaps

in cargo terminals and there is no emergency response. On the other hand, the security checks are more difficult to operate because of the risk of damage. Sometimes the information goes only in one direction and a lack or delay of the response in certain circumstances leads to unnecessary handling and damaging of the cargo. Information management is important. There is also a need for harmonisation between operational and security levels. There's been a suggestion from the audience, to identify scenarios and come up with the solution, and not giving one big screening for all.

The possibility of using graph databases in logistics was presented by **Holger Temme**, the Area Director Central and Southern Europe from Neo4j. Graph databases utilise mathematical constructs known as 'graphs' that are good for complex querying of big volumes of connected data. At the moment they are used extensively in such areas as fraud analysis with PayPal where every transaction is analysed in real time. Graph databases could be used for network impact analysis and online processing of what is happening to the data in the area of air cargo security.

"Graph databases could be used for network impact analysis and online processing of what is happening to the data in the area of air cargo security"

Session II: Big Data

David Quesada, the director of ENIDE (an SME specialized in creating and combining innovative ICT solutions and technologies for logistics and mobility) opened the session on big data and emphasised the challenges it's facing, analysis, capture, curation, search, sharing, storage, transfer, visualization, and privacy violations. **Juan Murillo** from Banco Bilbao Vizcaya Argentaria, an expert in big data focused on the application of big data in their bank business and how to extrapolate the results to other sectors. Challenges and opportunities in airmail risk profiling and how big data could be leveraged for security



purposes was presented by **Toni Männistö**, a PhD candidate at École Polytechnique Fédérale de Lausanne (EPFL), Switzerland.

Session III: Air Cargo Regulation

The last session of the EUROSKY conference was devoted to air cargo regulation. "As there are many entities like IATA, ICAO, TIACA who work on the issues of air cargo security, it is very important to eliminate duplication", said **Enno D. Osinga**, Senior Vice President Cargo at Amsterdam Airport Schiphol and the Vice Chairman at TIACA. "One of the issues is the harmonization of regulations, certification and standards."

Referring to the harmonization of legislation gaps **William Boley** from Conceptivity mentioned the issues of AEO and KC concepts and ACC3 regulation. Regarding ACC3, Russia is planning to introduce its own version of ACC3 for EU countries into Russia in response to the EU ACC3 regulation. One more 'legislation gap' stated here was the fact that the European Aviation Safety Agency (EASA) is taking

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more of a role within Security and not just Safety. For the harmonisation of certification, standards, training, and testing gaps **Boley** suggested that a possible standard or guideline can come out of the EUROSKEY project. "Within the "systems integration" piece of EUROSKEY, we are proposing a means of having all relevant information available to the cargo inspector during the screening process, to support the clear decision-making. This information includes the Air Waybill, measured weight and dimensions, photographs of the cargo, x-ray images raw and processed, and explosive trace detection (ETD) results. This will improve security by supporting more informed decisions".

Boley also said that having a single high-performance system at a central location, used by multiple handlers would allow for cost sharing among the handlers. Another option is for cargo handlers to pay the equipment provider by-the-scan, thus avoiding the up-front purchase costs and having screening costs tied to revenue. From a security perspective, establishing automated-detection regulations similar to what's in place for hold baggage screening (HBS) is the way to go. However, this has severe economic consequences.

Michael Woodall from the International Air Transport Association (IATA) worked on design of ACC3 regulation and commented on the impact of the regulation. With the ACC3 there is now a

"With the ACC3 there is now a recognized database of carriers"

recognized database of carriers. The visibility is greater in some areas than the others and there is more assurance at the political level. The independent audit has its pros and cons. Regulators look at validators report to advice the people responsible for risk assessment.



Asha Menon, a Senior Technical Officer at Compliance and Facilitation Directorate at World Customs Organisation (WCO), outlined the latest initiatives and activities within the International Civil Aviation Organisation (ICAO) and WCO partnership. After the Yemen accident the Universal Postal Union (UPU), WCO and ICAO started working together and produced a joint action plan. In September 2013 the first ICAO-WCO joint brochure has been produced. Since 2010 the cooperation of ICAO and WCO also covers the information exchange. There is a clear distinction between customs and transport with the customs' role to assist. Importantly, WCO and ICAO worked together in order to harmonise the definitions of high risk cargo they had before. At the moment the customs definition is wider and the aviation definition is more specific but they do not contradict each other. **Menon** also pointed out that there are a lot of elements at the EU level (including several programmes) that are overlapping. In her presentation she also spoke about the WCO SAFE Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework) and the new text in the SAFE Framework on pre-loading requirements.

"Importantly, WCO and ICAO worked together in order to harmonise the definitions of high risk cargo"

Conclusion:

Concluding the conference the EUROSKEY project coordinator **Fernando Caldeira-Saraiva** stated that the presentations and interactions during the conference have proved that we are all at the same page. There were 6 speakers from the project consortium and 6 external speakers. Next year the project will develop prototypes and the next year EUROSKEY conference will demonstrate new results.



EUROSKEY events team thanks all the speakers, moderators and participants of the EUROSKEY annual conference for the interesting presentations and stimulating discussions. EUROSKEY Consortium looks forward to maintaining the dialogue with air cargo security stakeholders and to further developing its solutions for air cargo security. For more information please contact Katsiaryna.Kliuyeva@eos-eu.com.



PARTICIPANTS

1	Fernando CALDEIRA-SARAIVA	BMT
2	Claire GRAY	BMT
3	Philip STEPHENS	BMT
4	Ilan BITON	SWISSPORT International S.A.
5	Alexis SIORIS	Athens International Airports S.A.
6	George BELIOS	Athens International Airports S.A.
7	Patricia SETRAKIAN	Heavyweight Air Express Limited
8	Konstantinos MARIS	Athens International Airports S.A.
9	Giuseppe DALL'ASTA	CONZORZIO IB INNOVATION
10	Nilesh BABU	URBANOS-GROUPO SGPS SA
11	Jenny BOLLER	GEOPOST UK LTD
12	Tabitha BYTHEWAY	GEOPOST UK LTD
13	Silvia ARCECI	FAST FREIGHT MARCONI SPA
14	Mark MCCARTHY	RAPISCAN Systems Limited
15	Anthony PARKER	RAPISCAN Systems Limited
16	Patrick RADISSON	MULTIX SA
17	Tim RAYNER	MULTIX SA
18	Micael GRANSTROM	TOTAL FORSVARETS FORSKININGSINSTITUT (FOI)
19	Tove GUSTAVI	TOTAL FORSVARETS FORSKININGSINSTITUT (FOI)
20	Gustav STRÖMQVIST	TOTAL FORSVARETS FORSKININGSINSTITUT (FOI)
21	Makis KOULOUMBIS	INLECOM SYSTEMS LTD
22	William BOLEY	CONCEPTIVITY
23	Richard SLEEMAN	Mass Spec Analytical Ltd
24	Fay THOMAS	Mass Spec Analytical Ltd
25	David QUESADA	ENIDE
26	Ze CARRAPICHANO	MTC2 Ltd
27	Katsiaryna KLIUYEVA	European Organisation For Security
28	Luigi REBUFFI	European Organisation For Security



29	Javier VAZQUES LOSADA	Ingenieria IDOM International SA
30	Antonis MIGIAKIS	CLMS UK Ltd
31	Paolo SALIERI	European Commission
32	Claire DABIN	European Commission
33	Goran LOVESTAM	European Commission
34	Eleanor TRAVERS	Irish Aviation Authority
35	Yvette JAMISON	Transport Security Agency, US embassy
36	Hauke BLOHM	German Federal Police
37	Howard STONE	UPS
38	Fabio ALLODI	UPS
39	Giancarlo ABRAMI	UPS
40	Werner COOREMAN	DHL
41	Enno OSINGA	TIACA, Amsterdam Airport Schiphol
42	Mike WOODALL	IATA
43	Asha MENON	WCO
44	Antonella STRAULINO	Italian Freight Forwarders' Association
45	Freek DE WITTE	Brussels Airport
46	Steven POLMANS	Brussels Airport
47	Burkhardt BERNDT	Lufthansa Cargo AG
48	Malgorzata SIARNECKA	Polish Airlines - LOT
49	Christoph KUHN	Swiss International Air Lines Ltd
50	Toni MANNISTO	Ecole Polytechnique Fédérale de Lausanne
51	Christian CYRYS	DEKRA Akademie GmbH
52	Ralf GOD	Hamburg University of Technology
53	Juan MURILLO	BANCO BILBAO VIZCAYA ARGENTARIA
54	Holger TEMME	Neo4j
55	Nuno BENTO	MARLO
56	Jiri KOOLMEES	G4S Aviation Manager Cargo Solutions