EDITORIAL

Dear Reader,

This is the final CASSANDRA newsletter. We are now three years and many reports further. These reports document the work that was done in the project, but they cannot truly capture the effort invested by all the partners into making CASSANDRA what it has become, that is, an innovative project that has pushed the envelope of increased supply chain security and visibility. The project was extremely ambitious, however, and despite our efforts, has not successfully realised all of its original ambitions. Nevertheless, we have developed an admirable track record along the way.

• We integrally mapped the supply chain, which in addition to the providing a picture of the chain itself, innovatively includes the processes as well, such as chain of custody and information exchange. This mapping helps actors better identify and understand both problems and solutions.

• Much can be improved in the documentation and transfer of information. Information is often late, incorrect or incomplete. This is not new, but CASSANDRA showed that the situation can be improved by a declaration process that starts earlier in the chain: at the point of origin rather than the destination. Real change, however, can only be accomplished in the long term.

• We gained a significantly better understanding of risk management in business and customs. First and foremost, the difference in the way these parties perceive and address risk cannot be underestimated. Importantly, we learned that this is a more complex than we had anticipated and that there is much room for improvement.

• The enforcement vision needs to shift from trusted traders to trusted tradelanes. CASSANDRA contributed to providing a good basis for this transition. To further anchor this in the supply chain, big steps need to be taken in terms of business-government dialogue. This has proven to be a hard nut to crack, as different parties have such different interests and contexts, but achieving a constructive dialogue will help give form to the other issues and make choices in the innovation process that benefit all parties involved.

At the end of the day, the CASSANDRA project successfully demonstrated that it is possible to improve supply chain visibility and, with it, security. Wide-spread real-world implementation, however, is still a way off. We gladly pass the torch to the CORE project to carry on the innovation that will eventually lead to fully realizing this project’s ambitions.

Best regards and enjoy reading the final CASSANDRA newsletter!

Dr. Heather Griffioen-Young, TNO, CASSANDRA Project Coordinator

www.cassandra-project.eu
INTRODUCTION - SECURITY THROUGH VISIBILITY
CASSANDRA addresses the supply chain visibility needs of both business and government in the international flow of containerized cargo. The main strategic goal is to enhance supply chain visibility to improve business operations as well as government’s cross-border security inspections.

The strategic impact for businesses is an improved supply chain performance and cost efficiency by reducing administrative and planning errors along the chain. For government agencies CASSANDRA improves efficiency and effectiveness. The project helps customers to assess business processes and procedures and identify secure supply chains. By minimising the attention given to these secure flows and businesses, government agencies can focus on high-risk flows resulting in a higher hit rate and greater effectiveness of security related government inspections.

In general, CASSANDRA facilitates the European and global trade by enhancing corporate social responsibility and by improving product and societal safety.

RISK-BASED APPROACH
Businesses and government agencies are struggling to find efficient and effective means to ensure full supply chain control and security, minimising supply chain risk. These challenges have a common solution: supply chain visibility by access to existing supply chain data.

System-based supervision
In CASSANDRA government agencies shift to a Risk-based Approach by relying on self-regulation of businesses. In this system-based supervision government agencies use an audit methodology to assess compliance to rules and regulations based on the evaluation of the integrity, reliability and internal consistency of the business and IT systems.

Risk-based supply chain management
An important prerequisite for system-based supervision is the introduction of a risk-based supply chain management. This means that supply chain management should be based on a transparent and reliable assessment and treatment of risks. The assessment of risks depends to a large extent on the availability of timely, reliable and complete information.

DATA PIPELINE CONCEPT
To provide supply chain actors and government authorities with these accurate data, the project develops a data sharing concept. CASSANDRA achieves interoperability of heterogeneous systems by combining state of the art IT innovations. Access rights and security mechanisms are implemented in a Data Pipeline to enable secure data sharing. Furthermore, dashboards to support businesses and customs for risk management and supply chain visibility are implemented.

Piggy-backing principle
The piggy-backing principle is a significant building block in the CASSANDRA project. Businesses can share supply chain data for risk management, and the same data can be optimally re-used (“piggy-backed” upon) for governmental purposes. Piggy-backing can take place on data generated by businesses and used by them to buy, sell, ship and to also assess risk.

LIVING LABS
The Living Lab research approach demonstrates the CASSANDRA innovations in complex real world settings. There are three global Living Labs: Asia-EU, EU-USA and EU-Africa. Each Lab holds one or more trade lanes. Rotterdam, Bremerhaven, Felixstowe, Barcelona and Setúbal container ports are involved. The freight forwarding companies DHL, Kuehne+Nagel, Seacon and BAP provide the Living Labs with actual container flows.
supply chain visibility can lead to reductions of the vulnerability as well as improvement of the reliability of supply chains. Optimized digital data flow can even reduce transaction costs.

During the session “CASSANDRA - Approach and Tools” Eric Geerts introduced the business dashboard of Descartes which acts as visibility solution to clarify container and consignment information and status monitoring. This collaborative multi-party solution for data sharing offers value added services, in particular the exception management, e.g. alerts of milestones in case of deviations or alerts on cross-checking of different data sources. Further on, he described the architecture in order to show how data is captured and can be used in the dashboard as well as the data access control mechanism to ensure access control and data security. Following this, Germán Herrero Carcel presented the dashboard solution of ATOS and its implementation in the third Living Lab on the trade lane Egypt to Spain. This business dashboard enables operational risk management based on supply chain visibility. He explained several use cases, in particular the use case on reusing the export source also as import source.

Last speaker of this session was Norbert Kouwenhoven who gave a brief demo tour on the customs dashboard which has been developed by IBM and Intrasoft. He showed how supply chain data can be retrieved from the Data Pipeline for customs purposes and how information on goods, involved parties and also tracking information are visualised in this dashboard.

Frank Heijmann from Dutch Tax and Customs Administration and David Hesketh from HM Revenue & Customs gave a talk in the session “CASSANDRA’s Benefits - The Customs Perspective”. Frank
Heijmann pointed out the problem of customs authorities. In particular, goods are not always described or despatched properly for transport and regulatory purposes. He also highlighted the challenge for customs authorities of getting data in better quality. In detail, information comes from different systems which are belonging to different organizations. This leads to the importance of getting accurate data at the consignment completion point - consequently, getting data directly from the source. David Hesketh supported these problems and clearly emphasised the issue for shippers: arriving goods in wrong quality respective wrong quantity or late arrival. Therefore, he presented the Data Pipeline approach and its benefits especially for shippers. Multiple filing, i.e. getting data from different sources, is of strong interest for customs authorities for their risk assessment. Hesketh also described the benefits of the CASSANDRA project to customs. In detail, CASSANDRA achieved the facilitation of the combination of existing information sources. Furthermore, the visibility has been improved but there is still space for enhancement in the near future which can be achieved by following the Data Pipeline vision. He explained that data will not be pushed from the Data Pipeline to the customs dashboard, but have to be queried. Querying the customs dashboard is a beneficial solution for Dutch customs, but UK customs would prefer to get data pushed into their systems in order to enable piggy-backing on the data for risk assessment.

Finally, Gerwin Zomer from TNO gave a presentation on some aspects on the future of CASSANDRA. In particular, he introduced a serious game that will be developed within the next months. Players can take action as various supply chain actors, using different playing cards symbolising tactic and strategic supply chain measures. The aim of this game is to understand the different perspectives and to promote the CASSANDRA key elements within the dissemination activities.

During the following discussion the participants used the opportunity to exchange several key elements of CASSANDRA with the panel speakers. The participants were especially interested in discussing the topics data accuracy, data integrity and data storage. Trusted traders and trusted trade lanes were also of great interest to the attendees.

The final event’s presentations can be found following: www.cassandra-project.eu/downloads/
The third CASSANDRA General Assembly Meeting took place from 8th to 9th May 2014 in Delft. The General Assembly proceeds once a year and aims to bring all of the 26 CASSANDRA consortium members together for a general update on the project’s progress. This meeting was the last issue and was combined with an official project review.

During the event the consortium members presented the outcome of the three-year research. Focus was the results of the applied concepts and approaches, the exploitation plan and the dashboards which have been developed during the project. In detail, during a session the participants had the opportunity to test the dashboards in a live demonstration.

All in all, the partners summed up a successful cooperation in the last three years and look forward to promising and far-reaching approaches for an improved security through more visibility in global maritime transport chains.

**CASSANDRA LIVING LABS**

**NEW WHITE PAPERS RELEASED**

The project consortium just published several new CASSANDRA White Papers which describe and explain the work, the aims and the results from the Living Lab Asia-Europe. The topics are:

- CASSANDRA DASC methodology: Data analysis for SC’s.
- Descartes’ answer to the CASSANDRA ambitions.
- GS1’s answer to the CASSANDRA ambitions.
- Penang - Venlo demonstration by Seacon Logistics.
- Yantian - Felixstowe demonstration by BAP.

More information on the Living Labs Europe-USA and Europe-Africa will follow soon.

*The White Papers can be downloaded in the document folder: [www.cassandra-project.eu/downloads/](http://www.cassandra-project.eu/downloads/)*
On 27th May, a special workshop took place in Delft. Thirty participants played the first version of “The Chain Game”, a serious game which is developed in the CASSANDRA project, in order to test the game’s conditions and to experience the value of supply chain visibility.

The Chain Game is a board game supported by evaluation software with focus on different interventions in a supply chain, and with the aim to improve its visibility and security. In detail, each player has to fulfil a role on one of the following supply chain actors: seller, buyer or freight forwarder. Then, the character has to decide for an action which could mitigate risks in the global transport chain. Some interventions are beneficial for one actor solely and other measures are beneficial for the whole supply chain. During the game, the players have to discuss about risk-minimising and security-optimising actions they would like to implement. According to their decision, key performance indicators (KPI) describing the capability, reliability and integrity for each actor and the whole supply chain are calculated. In addition, different events occur during the game by the usage of action cards, also affecting the KPI’s.

In order to evaluate and validate the game, a survey has been carried out. Furthermore, some project members monitored the game and gave a report on their notices in a review session afterwards. Here, the players also discussed if the game could give an insight into supply chain measures for practical use. The insights on the gaming session, the reports of the observers, the results from the discussion, and the survey will be taken into account for further development of The Chain Game.
The CASSANDRA dissemination team is proud to present the brandnew project film! The film gives an impression of the project's approach focusing supply chain predictability and visibility. Therefore, it illustrates the CASSANDRA Data Pipeline concept to avoid problems in transferring data within the global transport chain and shows the benefits for both businesses and Customs.

*The film can be found on the CASSANDRA website or on Youtube, just click on the play button below.*
COMMON ASSESSMENT AND ANALYSIS OF RISK IN GLOBAL SUPPLY CHAINS

PROJECT CONSORTIUM

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