

COLUMBA GLOBAL SYSTEMS' EXPRIMER TECHNOLOGY SOLUTION

The Logical *Linking* Element Within EU Security Systems

The traditional approach to investigation, tracking, risk assessment, scenario analysis, predictive modelling and authentication adopted by the majority of security and law enforcement agencies around the world – and particularly within the European Union – has confined itself to, or out of necessity, has been based upon paper-based systems or individual agencies officers' personal computers.

Such systems structures do not lend themselves easily or efficiently to the current sophisticated needs of analysis and dissemination; particularly the cross-referencing of information and its access in a timely and easily assimilated manner – or, in fact, and most importantly, converting base data into information and thence usable knowledge. Further, such systems preclude extending secure real-time access of information and knowledge throughout an extensive multi-national and multi-agency distribution network.

Information gathered during analyses or investigations – whether the application is oriented around organised crime, terrorism, border security or regulatory/legislative compliance is intricate and always interrelated, making it difficult to present key inter-related information in a coherent manner.

Those systems that do allow data navigation often only provide rigid pathways through the data and thus preclude facilities, particularly real-time interoperable facilities, for the intelligent exploration of inter-relationships and subsequent usage of the data – converted into essential information.

At the operational level, investigating officers and analysts require a structured and tiered approach available for multi-level analyses. This means providing users with an initial **summary of key information** and then being able to **drill-down** into it **exploring inter-relationships in a flexible manner** – driven by the line of investigation or analysis being followed.

Exprimer provides these key elements: interoperability, inter-relationship, intelligence.

Time critical

The accurate accumulation, examination, co-ordination, dissemination and reporting of information in investigations, tracking, scenario analyses or modelling is essential – and time critical. This becomes even more vital and more complex as criminals move freely between jurisdictions and

The Exprimer 'Expressive Objects' based technology solution from Columba Systems in Ireland has a vital role to play as EU member states increasingly focus on the need for joint security action to combat the threats posed by organised crime

Access to *Multiple* Disparate Data Sources

Sophisticated structured search and drill down capabilities

Strong security: encryption, authentication, authorization

No exposure of the data model to user applications

Based completely on open standards

Single architecture for multiple applications

Expressive Objects based User Interface

Context-sensitive mouse-over and right-click menu actions

Wide platform and database support

Rapid turnaround times for developing new applications

Performance and scalability

Ready-to-go client software for web and Java

Sophisticated CRM and Content Management Capability

**A Background White Paper
Columba Global Systems - developers
of the Exprimer Technology Solution**

Exprimer - The Logical Linking Element Within EU Security Systems

across borders, requiring multiple relevant national and federal agencies to access and share information.

In the above sense, **the need for the conversion of raw data into information, and thence into knowledge, is the prime objective of all agencies seeking to effectively implement and manage security and compliance solutions.** It is also the domain of corporate business in consolidating all known data regarding all inter-related elements of their supply and value chains. Further, the need for total interoperability and secure real-time distributed access is essential in a multi- agency, national, intra-regional or global solution.

Made in Ireland

In consideration of all of the above, an Irish owned technology company – Columba Global Systems – was formed in 1999. Columba was founded on the premise that **effective shared and rapid access to security information** is central to success in a global network. Columba initially assessed, and still maintains the view, that the majority of information retrieval technology approaches, whether on the web or within in-house applications, are ineffective and that a superior solution is required; a solution that is centred on open, standards-based ‘expressive objects’ technology.

As a result, Columba funded an initial multi-million euro research project and subsequently developed and implemented a technology solution – **Exprimer** – an initial application for the security and intelligence community which is also of direct relevance to corporates.

The Exprimer technology solution provides a highly advanced software framework that facilitates the rapid search and interrogation of inter-relationships across multiple, heterogeneous data stores – irrespective of the data owner.

Exprimer’s graphical user interface is based on extensive use of ‘expressive objects’ which simplify user assimilation and access to information and facilitate the collation of information to produce knowledge in a highly visual environment – irrespective of whether the application need is centred on incidents or identities.

Recent ESRAB Report

In very recent times the European Security Research Advisory Board (ESRAB) has published a comprehensive report under the heading **Meeting the Challenge: the EU Security Research Agenda**. The finished report involved the outputs of a 50 person-strong board of high-level specialists and strategists with expertise in the field of security research. In addition five Members of the European Parliament and representatives from 14 European Commission services participated in the workings of the board. The report represents the work of more than 300 people. The ESRAB document probably builds the most comprehensive overview yet of the needs of a **federal common purpose and approach** to address the rising concerns of all member countries of the EU.

The report isolates key considerations of the needs of both research into and the implementation of new technology-based solutions. In particular it draws attention to the importance of information management:

“Information management systems that more efficiently and effectively provide first responders with improved situation awareness and interoperable command and control facilities...”

In essence the ESRAB report significantly addresses the requirement for technology systems to step up to the needs of multiple organizations – tackling organised crime in **partnership** – thus **building intelligence based on numerous inter-relationships**. Systems that are capable of establishing shared and rapid access to information - isolating inter-relationships across multiple disparate, heterogenous data sources - are out of necessity the only sure-fire means of applying technology efficiently - in addressing an accelerating phenomenon which extends across all borders and all jurisdictions. The Exprimer technology solution, as developed and successfully implemented by Columba, is entirely predicated on that consideration.

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ESRAB is recommending the creation of a European Security Board (ESB) to foster greater dialogue and a shared view of European security needs. It is also highlighting the need for a non-bureaucratic, authoritative cross-stakeholder community.

Columba, in the production of Exprimer, is providing a highly innovative technology-based approach which is already under-pinning the approach to combating organised crime in Ireland and one that could become a key component in the technical solutions for numerous EU and corporate agencies.

In bringing attention to the ESRAB call for a European Security Board, Columba would also like to highlight a personal interest and commitment in acting as a catalyst for further dialogue on its creation. Columba would welcome the opportunity to enter into discussions with any parties with such common interest.

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