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Registration Form: Sharing and Reuse Awards Contest

Fields marked with * are mandatory.

Introduction

Thank you for your interest in entering the Sharing & reuse awards contest!

Please provide detailed information under each section of the registration form below and feel free to upload additional supporting documentation. The more information we possess concerning your solution, the easier it would be for the Evaluation Committee to assess it.

Note that the deadline for registration is 23:59 on 28 October 2016. Should you have questions related to the registration process or indeed the contest itself, please consult our FAQ page or, should your question not be on the list, contact us at: DIGIT-SR-AWARDS@ec.europa.eu.

For further information about how the information you share will be used, see our privacy statement.

Contact information

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* Country

Please note that only public administrations from EU and EFTA countries are eligible to participate.

Belgium

* Institution (name and address)

Please note that solutions must be developed or funded by Member States' public administrations. Solutions developed by the European Commission, European Parliament and the Council of the European Union are excluded.

Information Flanders Agency, Flemish government
Boudewijnlaan 30 bus 30, B-1000 Brussels
Belgium

Solution overview

* Name of the solution

MAGDA platform

* Type of solution

- ( ) Open source software
- (•) Shared service

* Solution description

3500 character(s) maximum

Please provide a generic description of your solution, describe its main features, what problems it solves, how it helps administrations provide public services, e.g.:
https://joinup.ec.europa.eu/software/openeprior/description
https://joinup.ec.europa.eu/software/openetrustex/description

The MAGDA (Maximum Data Sharing between Administrations and Agencies) platform provides one common service-oriented data exchange infrastructure for the 190 agencies and 13 departments of the Flemish regional government, and for the 308 local governments. The MAGDA platform provides access to base registries of citizen and enterprise data, harnessing reusable technologies that can be easily adapted to the needs of different government administrations, from the regional to the local level, and increasingly to the federal level.
The MAGDA platform allows for the retrieval of data from base registries (federal and Flemish) and the exchange of data. The platform was built to realize the principle of the "once-only" collection of data, as well as the multiple (re)use of data. Data entered (for the first time or updated) by citizens and businesses are collected only once. All applications that later want to use these data can retrieve them from the available base registries and so always use the latest information.
Through the MAGDA platform base registries (both federal and Flemish) are connected. And this despite the different structure of the data sources and the different design of the applications using them. The following base registries amongst others are now interconnected by the platform: the National Register, the CBSS (Crossroads Bank for Social Security), CBE (Crossroads Bank for Enterprises) and LED (Database of certificates of learning and of professional competence). The platform also offers data from other data sources which can be considered as authoritative sources. The data provided comes from more than 25 other sources, including information on vehicles, work permits, integration of refugees, education information, school attendance, … .
MAGDA’s reusable services allow government organizations to quickly and cost-effectively integrate data from these sources into their processes and applications.
The implementation of the platform was instrumental in the change from a “pull” to a “push” government, i.e. from a type of government in which citizens and businesses have to actively ask for services to a type of government that can proactively inform them about the benefits they are entitled to, on the basis of the data the government already has about them.
The use of the MAGDA platform has steadily increased over time, to the point that it currently connects more than 25 data sources and provides more than 75 data services.

* Award category

- ( ) Cross-border
- ( ) National
- (•) Regional
- ( ) Local

* Prize acceptance

If your organisation cannot accept monetary prizes, you can still win the award. The monetary prize will go to the next winning organisation.

- (•) My organisation is legally allowed to accept monetary prizes
- ( ) My organisation is not legally allowed to accept monetary prizes
- ( ) I am not sure

*Is your solution already in the Joinup catalogue?

- ( ) Yes
- (•) No. I agree to the Joinup team contacting me after I submit this registration form, to help publish my solution on Joinup.

Detailed solution information, lessons learnt & supporting documentation

Please note that all information should be provided in English.

Solution design

* What technologies is your solution based on?

In terms of IT infrastructure, the platform was developed to be compatible with the legacy systems of the base registries, so that there was no need for a migration to new technologies. The platform is based on a Service Oriented Architecture (SOA), and delivers web services that are technology-independent components defined by a behaviour and an interface. The same data can be provided as an XML data file or a CSV (comma-separated values) data file and can be delivered either via FTP (asynchronous) or via HTTP/SOAP (synchronous) protocol. Also web applications have been built that allow end-users to directly query the base registries. This variety of standardized, reusable access methods has contributed greatly to the successful uptake of the MAGDA platform.
The MAGDA platform makes data exchange technology-agnostic. The transformation that is carried out by MAGDA, transforming proprietary data formats into a canonical format, neatly integrates different data-models and technologies in a unique, reusable technical solution by which legacy infrastructure and older systems can be easily accessed.

* What is the architecture of the solution?

The MAGDA-platform defines a set of generic read & write, query & publish services that have to be implemented by all the base registries made available through the platform. These services provide data in a canonical data format, so that it is possible to perform the necessary filtering & logging on this data, and it becomes easy for data users to integrate this data in their own systems and processes. The platform takes care of authentication & authorization of data users and filtering & logging of data access, in order to comply with privacy protection regulations w.r.t. personally identifiable information.

* Is the solution scalable, extendable?

In the last few years we've seen a massive growth in services and usage of the MAGDA platform. The platform has been architected and built in an extensible way, by using small smart software components, which can be combined in different ways to build different solutions for different purposes. E.g. the same components are used to perform a transformation of the data, which is then delivered in different ways such as through Web services or FTP (and in the near future, through RESTful API's). All our services are fully load-balanced so new infrastructure can be added easily, to cope with increasing demand.
Due to the use of these reusable software building blocks - which we call software pattern archetypes - we were able to perform a couple of major changes to the platform without much impact on the users of the platform or on the base registries which are accessed through MAGDA. For example, we were able to add a new security layer (going from WS-S with UsernameToken to X509v3TokenProfile) in just one install effort with no impact on current services or customers. We can also have different versions of our services running at the same time, which makes it possible to offer different timepaths to our customers when migrating to newer versions of our services.
The true power of the platform lies in its capability to quickly connect new authentic data sources as well as provide services to new individual clients. New authentic data sources can - if their services have already been developed using the MAGDA-standard - quickly be deployed (within a timeframe of one week). We have developed reusable software code libraries which make it possible for base registries to quickly develop and deploy web services which comply with the MAGDA-standard and can be easily connected to the MAGDA-platform.

* Does the solution reuse other services / software solutions or standards / open specificaitons? What license model is used?

The MAGDA platform is based on industry standards. We make use of the SOAP-protocol, WS-S certificate-based security, … . As for services and software, the outsourcer's team that manages the platform has always had an open vision, fully integrated with the strategic vision of the Flemish Government, which sets out a number of vendor-independent strategies w.r.t. data-centers and common software platforms. The MAGDA platform uses the standard offerings of our IT outsourcer, to maintain stack-compatibility with the rest of the Flemish government, but it also makes use of open frameworks and tools such as Spring and Maven.
The MAGDA-platform has set for the whole of the Flemish government a single data-driven standard - which we call the MAGDA-standard - which offers business service templates and common data models (comparable to the core vocabularies developed in the ISA-programme). This free-to-use MAGDA-standard is now followed government-wide, has been reused dozens of times, and is a key-enabler for realizing the "once only" principle inside the Flemish government and at local governments.

Solution stakeholders

* Which organisations, institutions and/or countries are involved in the project governance?

The MAGDA platform is the principal working instrument of the Flemish Services Integrator (established by decree), part of the Information Flanders Agency, responsible for the creation and use of a set of Flemish base registries. The Flemish Services Integrator (VDI) is responsible for day-to-day operational management of the MAGDA platform. It is also responsible for the design, development and delivery of new data services, in close cooperation with the MAGDA Customer Board. This Customer Board consists of key users of the MAGDA platform, helping to set strategic long-term priorities for the MAGDA platform. It consists of organizations belonging both to the regional government and to the local governments.

* Please describe the roles and responsibilities of the different stakeholders collaborating in the project.

The Flemish Services Integrator (VDI) has a MAGDA Design Team responsible for architectural & functional decisions, a MAGDA Release Team, consisting of a dedicated team of developers and a MAGDA Steering Committee: budget & business decisions. Together these teams keep the MAGDA platform up and running. On a yearly basis, the new MAGDA data services to be developed and the additional base registries to be opened up are determined in close consultation with the MAGDA Customer Board.

Impact/results

* How does your solution help public administrations?

The use of the MAGDA-platform and its reusable software code archetypes provides several advantages for our customers. MAGDA has become the one-stop-shop for all the public data that a government organization may need to fulfill its duties to its customers, citizens or enterprises. For that purpose MAGDA has developed a standardized, reusable process to establish connections by its customers to the base registries of the Belgian federal government and the Flemish government. This reusable process is focused on the simplification of all the technical details involved: only 1 technical connection must be made, only 1 security protocol must be followed, only one set of privacy rules has to be adhered to. During this process, we provide support for dealing with technical, business, legal and privacy problems. This support has been written down in clear, reusable guidelines and recommendations.
MAGDA has also developed reusable software code libraries to make it easier for base registries to open up and connect to the MAGDA platform. MAGDA filters the data from the base registry according to the privacy permissions of each customer, which means the base registry doesn’t have to do this itself, saving it development and operational costs. To facilitate development of its data access services, the base registry can use business service templates and software code archetypes provided for free by the MAGDA development team.
The MAGDA-platform also functions as an integral part of the shared services IT-infrastructure of the Flemish government. It is integrated with other technical solutions, like the Certificate authority, User and Access Management, …

* What benefits does your solution bring to its stakeholders and users?

The adoption of a service-oriented delivery model (including both web services and file transfer services) proved to be more than a technical approach, as it allowed responding to different customers' needs and adapting data services to the technical capacity and matureness of customers. While this technical choice has been more expensive in terms of development costs, it has allowed for more technical flexibility and thus has increased the willingness of customers to use the MAGDA data services.

* What was the approximate budget of the project? If you are aware of any savings as a result of using the solution, please provide the information.

The initial development costs for the version 1.0 of the MAGDA platform in 2004-2005 were € 2.4 million euro (including the hiring of external ICT expertise, which cost € 1 million euro per year), the upgrade to version 2.0 in 2012-2013 (which included a number of important functional improvements to the platform) cost € 3.2 million euro (again including the cost of external ICT expertise, which has been reduced to 600.000 euro per year). Annual costs for the continued operation of the MAGDA platform amount to about 3 million euro per year.
The platform has generated a notable Return on Investment. Using the Standard Cost Model (SCM) it is estimated that the money saved by the reduction in administrative burden was 97.7 million euro in 2013 alone. This reduction is achieved both by the replacement of existing paper-based administrative processes by electronic processes, and by the implementation of totally new electronic processes (that would have resulted in an increase in administrative burden if they had been implemented in a classical, paper-based way).

Extent of reuse

* To what extent is your solution already reused in different organisations or domains?

Please be as specific as possible. Please provide the name(s) of the organisation(s) that have reused your solutions - at least one name is required. Please provide metrics if possible (extent of usage, number of administrations using the application, number of end-users, etc.).

The data services offered by the MAGDA platform reused in different ways and on different levels. One data service, providing access to a base registry, can be reused without costs by multiple clients. The services offered by the MAGDA-platform are reused both inside the Flemish government (e.g. the Flemish employment agency VDAB) and in the local governments (e.g. by major cities such as Ghent or Antwerp). A data service that is developed for a specific data exchange project is always built in such a way that it can be easily reused by other customers. E.g. a couple of years ago MAGDA developed a data service to retrieve information on the family composition of a person. Today more than 38 customers are reusing that same service. A customer can also reuse multiple services together and combine them to provide a whole set of data usable for his particular business process.
Parts of the technical MAGDA solution and underlying architecture model, such as the customer identification system and the webservice security facility, were also reused in the domain of education, for the connections of their back-end with education institutions.

Sustainability

* How is the sustainability of your solution guaranteed – is there a specific governance / business model set up to ensure sustainability?

The Flemish government foresaw that the MAGDA platform would become an important enabler in its e-government strategy, and gave the MAGDA platform its own separate funding, in order to guarantee the continued expansion and exploitation of the MAGDA platform. MAGDA itself has become a core component and key player in all the data-exchange projects within the Flemish government and at local governments.
Taking into consideration the continuous growth and the growing importance of the MAGDA platform studies are now underway to find the appropriate financing model to ensure the further maintainability and sustainability of the platform.

* Does your administration provide support for this solution?

Please describe what kind. Please include here any plans for future development or extension.

The MAGDA-platform provides support to its customers at different levels. Most of the data being exchanged using the MAGDA platform is person-related and thus privacy-sensitive. Projects in which personal data is being process must have a legal base and this is checked by the Privacy Commission. MAGDA provides legal support to the administration who needs to get this legal approval, and it also supports the Privacy Commission in evaluating the technical architecture of the data exchange solution before it is being built. Customers using the MAGDA platform not only receive legal support, but also business and technical support. On a business level, the MAGDA-experts have a deep knowledge of the base registries and the type of data they provide, so they develop together with the customer the appropriate business model and the underlying processes, using the re-usable MAGDA business service templates they have at their disposal. On a technical level we provide assistance for the development of the technical architecture of the solution, and for the actual writing of the code, using the reusable software code archetypes provided by MAGDA.
We also provide support for the reuse of the MAGDA platform itself: the source code is available and our experts are able to share their knowledge how the MAGDA platform was implemented.

Additional information

Please provide any additional information here.

For a short movie about the MAGDA platform, see https://www.youtube.com/watch?v=diQcM_pIFUc

Please provide additional documentation by clicking the upload button below. Note that files must be no larger than 1MB in size. Use this address: DIGIT-SR-AWARDS@ec.europa.eu in case you are sending larger files, always quoting the name of the solution in the subject of the email.

Thanks

Thank you for your Sharing & reuse awards contest entry!

Upon submitting the registration form you will see a unique "Case Id" on the confirmation screen. Please keep this number in case you would like to change anything in your form later.

Within three working days you will also receive an email confirming your registration and informing you of the next steps.

Contact

DIGIT-SR-AWARDS@ec.europa.eu
