



KONINKRIJK BELGIË  
Federale Overheidsdienst  
Buitenlandse Zaken,  
Buitenlandse Handel en  
Ontwikkelingssamenwerking

Directie Organisatiebeheer

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uw bericht van uw kenmerk  
19/06/2018

ons kenmerk  
D4/PN/DEV01.07/2018

te vermelden in elke briefwisseling

datum

- 4 JULI 2018

**Onderwerp: Proposition pour le développement de la plateforme de visualisation de données de la DG Coopération et Développement – kennisgeving van gunning van de opdracht.**

Geachte heer,

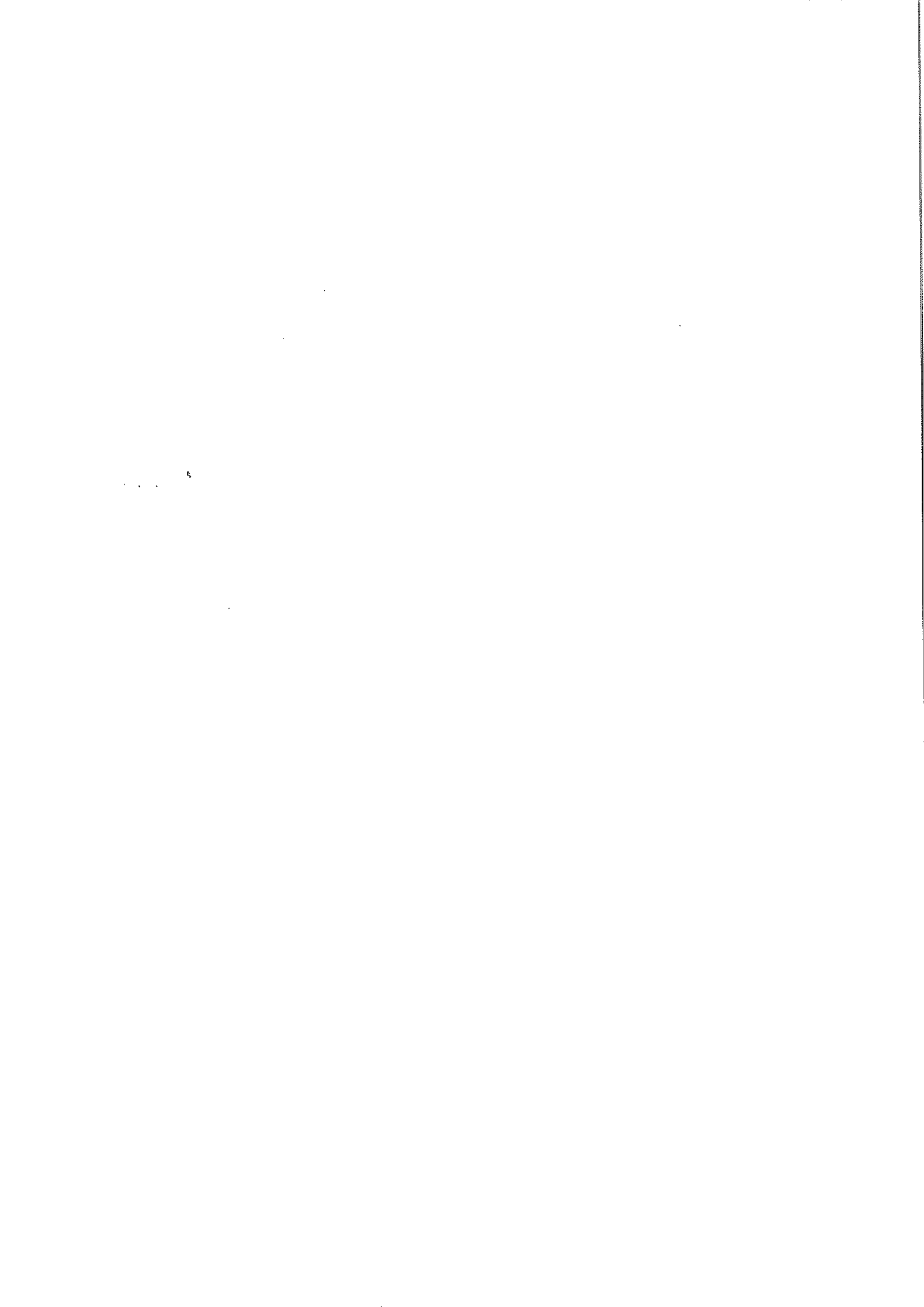
Uw offerte met betrekking tot het ontwikkelen van een "plateforme de visualisation de données de la DG Coopération et Développement" werd goedgekeurd.

Gelieve in bijlage een ondertekend exemplaar te willen vinden van de door U opgemaakte offerte.

Hoogachtend,

  
Bruno van der Pluijm  
Directeur-generaal ontwikkelingssamenwerking en humanitaire hulp

Bijlage(n):1



**SPF Affaires Etrangères**

**A l'attention de Bruno van der Pluijm**

**Directeur Général de la Coopération au  
Développement et Aide Humanitaire**

Par courrier électronique

Bruxelles, le 19 juin 2018

Cher Monsieur Neirinck,

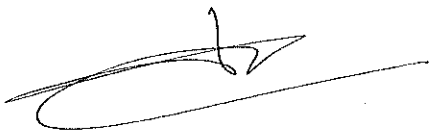
Je vous prie de trouver, ci-annexée, notre proposition pour le développement de la plateforme de visualisation de données de la DG Coopération et Développement ; ce dans le cadre du service Fast2web Drupal 8.

Cette proposition vous est transmise en application du contrat Fedict/2016/M1030 par rapport auquel BOSA (Fedict) vous transmettra toute information utile.

Nous commencerons à travailler sur la mission dès réception de votre bon de commande.

Nous restons à votre disposition pour répondre à toute question éventuelle.

Cordialement,



Jean-David De Lathouwer  
Managing Partner  
Blue4You



Blue4You | Fine Art in Web Technologies

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Contrat BOSA/2016/M1030

Développement de la plateforme  
de visualisation des données de  
la DG Coopération au Développement

By Blue4You

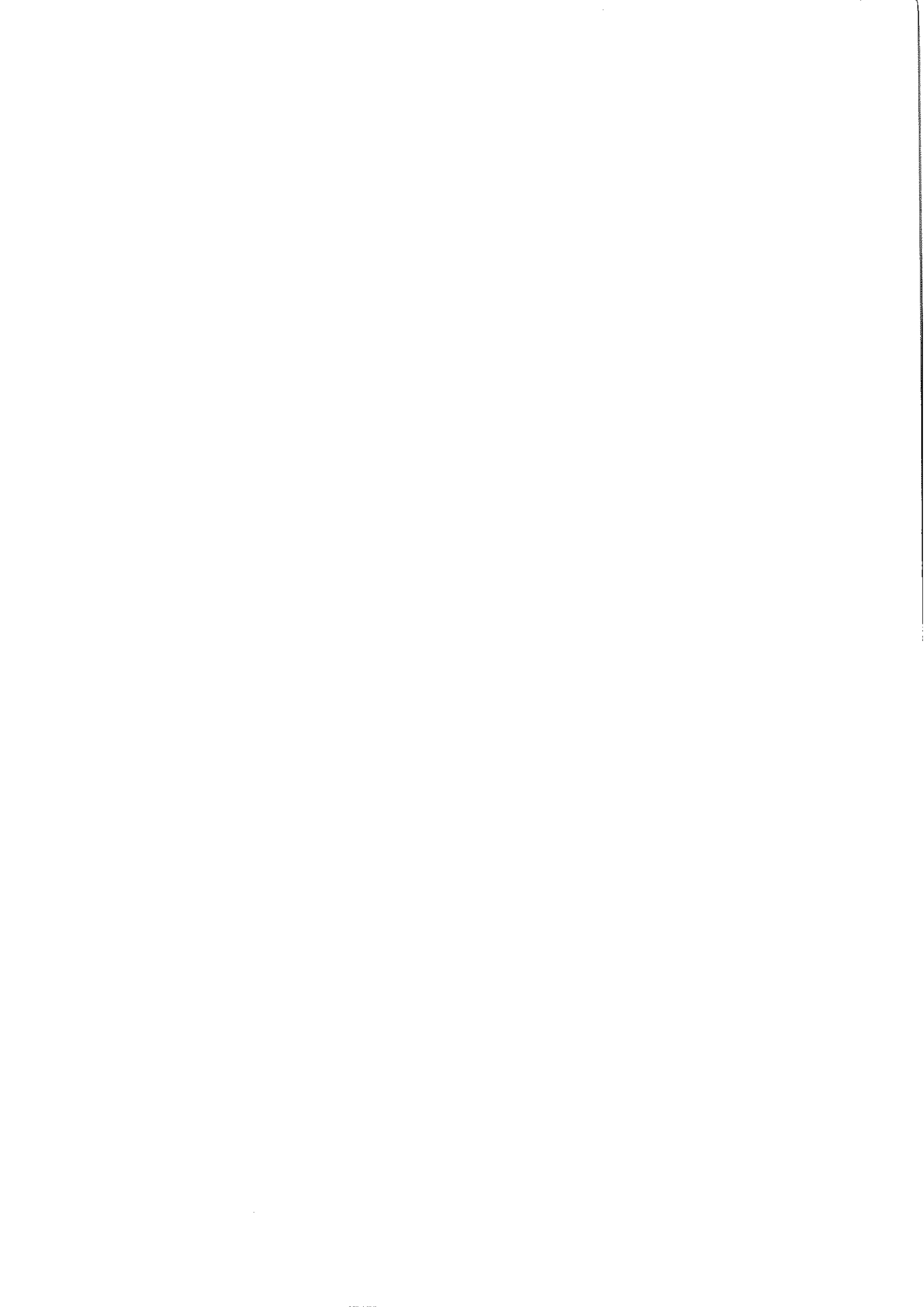


Contrat BOSA/2016/M1030

Développement de la plateforme  
de visualisation des données de  
la DG Coopération au Développement

By Blue4You





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## 1 Cadre contractuel

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Ce projet sera réalisé en tant que mission partielle dans le cadre du marché Fedict/2016/1030 « Externalisation d'une plateforme de Web Content Management pour les sites fédéraux et d'autres services publics fédéraux » telle que définie au poste 1 (développement de site) du CSC.

## 2 Documents de référence

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La présente proposition est établie sur base des documents suivants :

- Behoeft analyse portaal dont la dernière version 2 a été réceptionnée en date du 19 juin 2018
- Informations échangées dans le cadre de la réunion intervenue en vos locaux en date du 11 avril 2018 en ce inclus :
  - Email de questions complémentaires envoyé par Mr de Galembert en date du 27/4 2018 et réponses correspondantes (joint en annexe 1)
  - Email récapitulatif envoyé par Mr de Galembert en date du 22 mai 2018 (joint en annexe 2)
  - Emails traitant des différentes options d'hébergement et de maintenance de l'application OIPA envoyés par Blue4You en date du 29/5, 1/6, 5/6 et 6/6
- Mails échangés entre Blue4You (James McKenzie) et BOSA (Bart Declercq) visant à définir un cadre technique de développement en adéquation avec le service Fast2web

Ces documents, ainsi que la proposition transmise par Blue4You dans le cadre du RFP BOSA/2016/M1030, sont considérés comme faisant partie intégrante de la présente offre sans que ceux-ci ne soient, toutefois, intégralement reproduits dans le cadre de la présente.

A cet égard, les conditions de SLA détaillées dans le cadre du contrat susmentionné seront également d'application dans le cadre de la présente.



### 3 Configuration générale

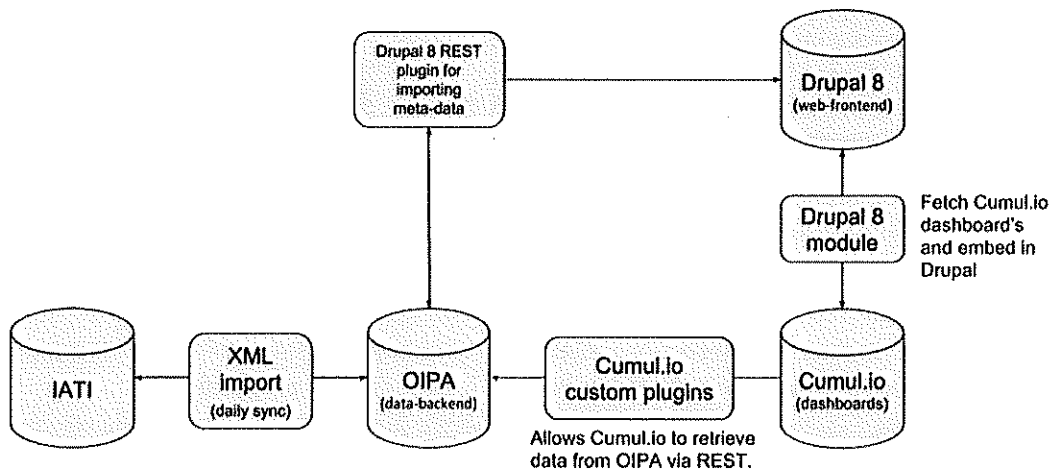
The Drupal site will be based on Openfed 8, the back-end interface for OIPA will be accessed independently.

The Drupal site will be implemented as a skeleton, there will be a Drupal module which embeds dashboards from Cumul.io.

Drupal will import a sub-set of metadata isolated to text-based queries. We will define the relevant data types and provide a SOLR implementation to handle common search queries. We will use **YAML structures** to import the metadata periodically.

Drupal back end interface will be used to manage all descriptive website contents (be they texts, images or related documents). This may include, amongst others, some country related information that will populate the platform without originating from OIPA.

Diagram below demonstrates the process flow between different data stores:



#### Cumul.io integration

Cumul.io 'plugin' feature for exposing data sets

The plugin feature basically would act as a flexible data adapter between our API and Cumul.io. We would register a Plugin on the Cumul.io web interface. Development would occur to create plugins for specific RESTful endpoints or a collection, depending on the data required. In Cumul.io they get exposed as "Datasets", with the source data coming from OIPA back-end. Each extension to support the Cumul.io plugin(s) feature can remain packaged as a part of the instance where OIPA framework resides.

#### Key points:

- No data is stored in Cumul.io
- Custom Plugins connect and expose the REST API endpoints of OIPA back-end as Cumul.io datasets in the UI, so we can construct dashboards.
- Dashboards with Graphs/Charts are built in the Cumul.io UI as standard
- Embedding dashboard will be using iFrames as standard (there are possibilities manipulating the child/parent elements of the iframe windows he mentioned)

More info see: [Cumul.io Plugins](#)

#### Initial tasks

Assuming we develop plugin(s) via Cumul.io:

- Define different dashboard types
- Define Cumul.io plugin types for integration
  - Configuration Cumul.io plugins
  - Remote instance of OIPA set-up on B4U server
  - OIPA integration tests with Cumul.io
  - Security/authentication set-up (oAuth, API Key, or API Key + Token)
- Develop Plugin connectors for exposing data via REST

#### Notes:

- The Drupal module for supporting visualization of Cumul.io dashboards will be developed by BOSA and a third party. As such this task is not included in this proposal. Based on Bart Declercq's (BOSA DT) last input dated June, 14 2018, the module will be developed by the company Dropsolid and there is a very high level of confidence that DGCD requirements for teh Cumul.io integration with Drupal will be met in due time.
- The OIPA DB will not support the usage of free additional XML tags (namespaces) that would not be initially foreseen in the standard IATI model. However there would be a possibility to develop additional parsing tools that would allow to expose the data as endpoints within OIPA API. This would involve complementary development which are not included in this proposal.
- A preliminary technical analysis on which we have based our estimate and proposed technical framework is integrated in annex 3.

#### 4 Liste des tâches

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Les tâches suivantes seront réalisées dans le cadre de la mission :

- Analyse technique
- OIPA deployment and container set-up in cloud environment
  - Test docker configuration and adapt where required
  - Set-up remote repository with OIPA fork
  - Pull repository and prepare docker container locally
  - Test components a deploy docker image
- Back end development inclus :
  - Drupal & Openfed 8 installation/configuration
  - SOLR installation & configuration
  - SOLR search page analysis for utilizing OIPA meta data
  - SOLR search page implementation, with autocomplete
  - Drupal data type analysis for OIPA meta data
  - Drupal implementation of data types for OIPA
  - Drupal synchronisation analysis for meta data from OIPA
  - Drupal implementation of synchronisation process for OIPA meta data (migration, mapping, and schema definitions of meta-data):
    - Install a configure migration module and dependencies
    - Create YAML based structure for meta data imports
    - Test import procedures
    - Expose data to SOLR search, configure fields
    - Build search facets from meta data
  - Drupal Cumul.io integration
    - Investigate data-adapter plugins for exposing external data as Cumul.io datasets
    - Build & test data adapters between OIPA & Cumul.io
    - Construct dummy visualization components from datasets.
    - Manually embed into Drupal for testing purposes.
    - Integrate correctly into Drupal based Cumul.io module
- Création d'une sélection de wireframes représentant la structuration des principaux écrans des pages de la plateforme
- Création d'une sélection de maximum 10 maquettes graphiques sur base des wireframes validés et de l'identité graphique de la DGCD
- Mise en place des différentes versions linguistiques (hors intégration des contenus statiques à réaliser par la DGD) sur base de ce qui est décrit au paragraphe 1.4.1.3 du CSC
- Templating HTML / CSS en ce inclus version responsive

- Tests / bug fixes et quality control (en ce compris respect des exigences en matière d'Accessibility)
- Formation des content editors (1 session)
- Assistance au lancement du site
- Project management

Notes:

- L'élaboration des wireframes et maquettes impliquera une rencontre avec les différents project stakeholders ; ce afin de formaliser l'ensemble des attentes formulées vis-à-vis de la structuration de plateforme. Par ailleurs, une analyse de plateformes similaires, élaborées par d'autres acteurs publics ou privés, permettra de mettre en évidence un ensemble de « best practices » à mettre en œuvre en matière de usability / ergonomie / design.
- En fonction des demandes du client la création des écrans pourra passer par une phase de création de wireframes ou sera réalisées directement sous forme de maquettes graphiques. Ceci s'effectuera sur un mode itératif. Nous ne limitons pas, dans le cadre de la présente proposition, le nombre d'itérations réalisable sans supplément de coût. Toutefois, sur base de notre expérience dans la réalisation de projets similaires, nous estimons que la création de maquettes nécessite de l'ordre de maximum:
  - o 2 à 3 itérations pour la page d'accueil afin de définir la ligne graphique de la plateforme
  - o 1 à 2 itération pour les maquettes de pages intérieures déclinées sur la base de l'identité définie pour la page d'accueil
- Les maquettes seront postées sur une interface de visualisation Invision permettant la gestion de commentaires en ligne ainsi qu'une simulation de navigation.
- Le montage HTML/CSS ne commencera après validation définitive des maquettes graphiques. Toute modification, à la demande du client, des templates HTML/CSS postérieur à la validation des maquettes .PSD sera considéré comme un change request pouvant, potentiellement, donner lieu à un supplément de coût.

## 5 Délai de mise en œuvre

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20 à 22 semaines à compter de la réception du bon de commande en se basant sur les hypothèses de travail suivantes :

- la DGCD fournira réponse à nos questions / propositions dans un délais de maximum 5 jours ouvrables (et idéalement plus rapidement). Tout dépassement de ce délai donnera lieu à un rallongement du temps nécessaire à la mise en œuvre de la plateforme.
- Le respect du délai susmentionné est tributaire de la création du module permettant l'intégration du dashboard Cumul.io dans Drupal (ceci étant développé par un prestataire tiers en collaboration avec BOSA) au plus tard pour la fin septembre 2018.

A noter, tenant compte de la surcharge de fin d'année, les projets commençant après le 31/8 requièrent un délai supplémentaire d'approximativement 6 semaines de développement.

**Une proposition de planning est intégrée ci-dessous**

	July (A)	August (B)	September (C)	October (D)	November (E)
<b>Sprint (Weekly average)</b>		<ul style="list-style-type: none"> <li>Developing data-adapters for OIPA integration as data-sets</li> <li>Cumul.io integration with OIPA</li> </ul>	<ul style="list-style-type: none"> <li>Creation of wireframes</li> <li>Drupal implementation of synchronization process for OIPA metadata</li> </ul>	<ul style="list-style-type: none"> <li>Wireframes implementation &amp; dev</li> <li>Back-end support for front-end templating</li> <li>Cumul.io integration with Drupal</li> </ul>	<ul style="list-style-type: none"> <li>Cumul.io visualization component creation via the UI, with customer input</li> <li>Cumul.io Drupal module integration tests</li> </ul>
<b>Sprint 1</b>	<ul style="list-style-type: none"> <li>OIPA deployment and container set-up in cloud environment</li> </ul>	<ul style="list-style-type: none"> <li>Cumul.io integration with OIPA</li> <li>SOLR installation &amp; configuration</li> </ul>	<ul style="list-style-type: none"> <li>Wireframes implementation &amp; dev</li> <li>SOLR search page analysis for utilizing OIPA meta data</li> <li>SOLR search page implementation, with autocomplete</li> </ul>	<ul style="list-style-type: none"> <li>Cumul.io integration with Drupal</li> <li>DGD workflow test phase, with bug fixing</li> <li>Site cache for HTML &amp; CSS gzip compression</li> <li>Cache for visualization layer (cumul.io)</li> </ul>	<ul style="list-style-type: none"> <li>Customer content creation support</li> <li>Customer testing/feedback</li> </ul>
<b>Sprint 2</b>	<ul style="list-style-type: none"> <li>OIPA deployment and container set-up in cloud environment</li> <li>OIPA synchronization set-up</li> <li>OIPA test REST endpoint exposure</li> </ul>				



<ul style="list-style-type: none"> <li>• Drupal &amp; Openfed 8 installation/configuration.</li> <li>• Cumul.io account set-up</li> <li>• Cumul.io data-adapter setup via dashboard</li> <li>• Developing data-adapters for OIPA integration as data-sets</li> </ul>	<ul style="list-style-type: none"> <li>• Drupal data type analysis for OIPA meta data</li> <li>• Drupal implementation of data types for OIPA</li> <li>• Drupal synchronization analysis for meta data from OIPA</li> </ul>	<ul style="list-style-type: none"> <li>• Wireframes implementation &amp; dev</li> <li>• Templating HTML / CSS en ce inclus version responsive</li> </ul>	<ul style="list-style-type: none"> <li>• Load testing</li> <li>• Site profiling</li> <li>• Hotfixes related to performance issues</li> </ul>	<ul style="list-style-type: none"> <li>• Site deployment procedures defined for go-live phase</li> <li>• Documentation based on custom components</li> <li>• Develop hand-over documentation</li> </ul>
<p><b>Sprint 3</b></p>	<ul style="list-style-type: none"> <li>• Creation of wireframes</li> <li>• Drupal implementation of synchronization process for OIPA meta data</li> </ul>	<ul style="list-style-type: none"> <li>• Templating HTML / CSS en ce inclus version responsive</li> <li>• Back-end support for front-end templating</li> </ul>	<ul style="list-style-type: none"> <li>• Front-end Q/A</li> <li>• Back-end Q/A</li> <li>• Bug fixing</li> </ul>	<ul style="list-style-type: none"> <li>• Final bug fixing phase based on customer feedback</li> <li>• Final pipeline tests for deployment</li> <li>• Customer training Go-live</li> </ul>
<p><b>Sprint 4</b></p>	<ul style="list-style-type: none"> <li>• Developing data-adapters for OIPA integration as data-sets</li> </ul>			

Notes:

- Internally these tasks will be broken down into our Jira ticketing system, so that above should only be considered as a "high" level planning overview.
  - Since Cumul.io Drupal module will be developed externally we cannot guarantee with certainty the ability to integrate in accordance with our planning. Therefore we will assume an alternative approach for embedding the visualisation components, whilst providing a stream-line approach to migrate the various internal references in accordance to the module's expected format.
- As a conclusion, we consider that a later delivery of the Cumul.io Drupal module will not impact the overall project planning (provided it is delivered not later than end September).

- Wireframing / design tasks have been postponed, in the above timeline, to September due to summer holiday period that may prevent the set-up of a workshop at DGCD's side. As far as Blue4You is concerned, we would be available and willing to move on the UX/design aspects of the project in the month of July/August.
- Monthly steering committees will be organized for the duration of the projet with regular reporting by project manager occurring in-between.





### 6.1 Site Drupal

Le site Drupal développé sur base de la plateforme Fast2web Drupal 8 sera hébergé par SMALS dans le cadre de la solution d'hébergement mise en place et gérée par BOSA.

### 6.2 Application OIPA

Durant la phase d'élaboration de la plateforme (6 mois), l'application OIPA sera installée sur un serveur présentant la configuration suivante :

1 x Standalone VM (Debian) with Docker and container.

Incluant 4 CPU / 8 GB RAM / 100 GB DISK

L'hébergement s'effectuera par l'intermédiaire de notre partenaire Combell ou, avec l'accord préliminaire du client, de tout autre prestataire à-même de proposer une solution équivalente.

Dans ce cadre, Blue4You et le prestataire hébergement mettront tout en oeuvre pour que l'infrastructure garantisse une parfaite gestion des demandes sans risque d'interruption de service (uptime de 99,5%) ni temps d'attente excessif. Au besoin (très improbable) où il serait nécessaire d'effectuer un recalibrage du serveur (augmentation de capacité / puissance) pendant la période de 6 mois, les coûts supplémentaires éventuels en seront assumés par Blue4You.

A l'issu de la phase de développement, l'installation pourra, au besoin, être migrée vers tout autre serveur présentant une configuration équivalente ; ce avec un minimum d'effort.

## 7 Budget

### 7.1 Création de la plateforme

#### Poste 1 - Développement :

Sur base des spécificités détaillées ci-dessus et dans l'analyse technique, nous estimons la mission globale à 173 jours/homme facturés au tarif unitaire de 625 € HTVA (756,25 € TTC) d'application dans le cadre du contrat BOSA/2016/M1030.

Tâches	Ressources (jour/homme)
Tâches de développement back end telles que listée au chapitre 4	75
Front end en ce inclus : <ul style="list-style-type: none"><li>- Version desktop</li><li>- Version responsive</li></ul>	45
Design en ce inclus : <ul style="list-style-type: none"><li>- Wireframing</li><li>- Maquettes des principaux écrans (desktop et responsive)</li></ul>	15
Quality control	20
Project Management	18
<b>Total</b>	<b>173</b>

Soit un budget total de 108.125 € HTVA (130.831,25 € TTC).

#### Poste 2 - Hébergement temporaire de l'application OIPA :

Sur base des spécifications détaillée au chapitre 6, les frais d'hébergement se monteront à un total de 650 € HTVA (soit 786,5 €) par mois.

Soit un total de 3900 € pour de 6 mois correspondant à la durée estimative nécessaire entre le début de la mission et la mise en production de la plateforme en ce compris l'intégration de contenus par le client.

L'hébergement du site Drupal Fast2web est, quant à lui inclus dans le service offert par BOSA.

Budget global Développement et hébergement temporaire OIPA(6 mois)

112.025 € HTVA soit un montant de 135.550,25 € TVAC

## 7.2 Support et maintenance du site Fast2web (Drupal)

315 / mois HTVA (381,15 € TTC) ou 3780 €/an HTVA (4573,8 € TTC) à compter de la livraison du site sur le serveur de staging.

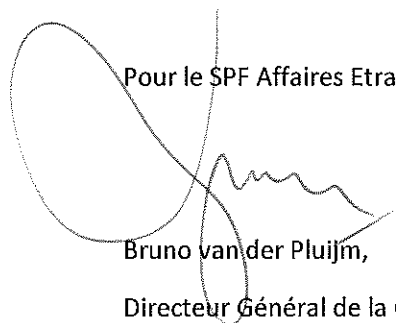
Ce poste n'inclut pas les éventuelles tâches de maintenance de l'application OIPA (postérieure au lancement de la plateforme).

## 8 Validité et conditions de paiement

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- La validité de notre offre est de 3 mois
- Facturation :
  - o 20% à finalisation de la phase de configuration de l'application OIPA
  - o 30 % à validation des maquettes graphiques
  - o 50% à livraison de la plateforme « ready for content input » sur le serveur de staging.

Pour le SPF Affaires Etrangères,



26 JUNI 2018

Bruno van der Pluijm,

Directeur Général de la Coopération au Développement et Aide Humanitaire



Annexe 1 : Email du 27 avril

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Dear Sir,

You will find here below some complementary pieces of information to the questions we received on Friday, 27. This includes 2 complementary contributions provided by James.

We remain at your disposal to answer any question you may have in this respect.

Best regards,

Jean-David



Jean-David De Lathouwer  
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**From:** Jean-David De Lathouwer <[jddl@blue4you.be](mailto:jddl@blue4you.be)>  
**Sent:** Friday, April 27, 2018 3:10 PM  
**To:** 'De Galembert Alain - ICT0.1' <[Alain.DeGalembert@diplobel.fed.be](mailto:Alain.DeGalembert@diplobel.fed.be)>; 'Bart Declercq (BOSA)' <[bart.declercq@bosa.fgov.be](mailto:bart.declercq@bosa.fgov.be)>  
**Cc:** 'Delphine Duprez (BOSA)' <[delphine.duprez@bosa.fgov.be](mailto:delphine.duprez@bosa.fgov.be)>; 'Botte Benny - ICT4.3' <[Benny.Botte@diplobel.fed.be](mailto:Benny.Botte@diplobel.fed.be)>; 'Van Broeckhoven Antoon - D4 - D4.2' <[Antoon.VanBroeckhoven@diplobel.fed.be](mailto:Antoon.VanBroeckhoven@diplobel.fed.be)>; 'Barbieri Laurent - ICT4.2' <[Laurent.Barbieri@diplobel.fed.be](mailto:Laurent.Barbieri@diplobel.fed.be)>; 'De Jonghe Patricia - D4' <[Patricia.DeJonghe@diplobel.fed.be](mailto:Patricia.DeJonghe@diplobel.fed.be)>; 'Neirinck Peter - D4' <[peter.neirinck@diplobel.fed.be](mailto:peter.neirinck@diplobel.fed.be)>; 'James' <[james@blue4you.be](mailto:james@blue4you.be)>  
**Subject:** RE: Portal DGD

Dear Sir,

We thank you for your mail.

Thanks to Bart as well for already providing substantial feedback to the questions raised.

I have attached some complementary pieces of information in the body of your email.

As James is currently out of office, he will provide some more input by next Wednesday.



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I take this opportunity to reiterate the fact that we are highly enthusiastic at the prospect of being involved in this interesting project. Having extensively investigated the overall technical framework over the last month, we have no doubt concerning our ability to develop the portal in a fully satisfactory manner.

Best regards,

Jean-David



Jean-David De Lathouwer  
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**From:** Bart Declercq (BOSA) <[bart.declercq@bosa.fgov.be](mailto:bart.declercq@bosa.fgov.be)>  
**Sent:** Friday, April 27, 2018 9:45 AM  
**To:** De Galembert Alain - ICT0.1 <[Alain.DeGalembert@diplobel.fed.be](mailto:Alain.DeGalembert@diplobel.fed.be)>; Jean-David De Lathouwer <[jddl@blue4you.be](mailto:jddl@blue4you.be)>  
**Cc:** Delphine Duprez (BOSA) <[delphine.duprez@bosa.fgov.be](mailto:delphine.duprez@bosa.fgov.be)>; Botte Benny - ICT4.3 <[Benny.Botte@diplobel.fed.be](mailto:Benny.Botte@diplobel.fed.be)>; Van Broeckhoven Antoon - D4 - D4.2 <[Antoon.VanBroeckhoven@diplobel.fed.be](mailto:Antoon.VanBroeckhoven@diplobel.fed.be)>; Barbieri Laurent - ICT4.2 <[Laurent.Barbieri@diplobel.fed.be](mailto:Laurent.Barbieri@diplobel.fed.be)>; De Jonghe Patricia - D4 <[Patricia.DeJonghe@diplobel.fed.be](mailto:Patricia.DeJonghe@diplobel.fed.be)>; Neirinck Peter - D4 <[peter.neirinck@diplobel.fed.be](mailto:peter.neirinck@diplobel.fed.be)>  
**Subject:** RE: Portal DGD

I can answer some of your concerns (particularly as they relate directly to BOSA) in color inside your mail below – I'm sure Jean-David & James will add to/correct me where necessary:

Bart Declercq

Application Architect WCM

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**Van:** De Galembert Alain - ICT0.1 [<mailto:Alain.DeGalembert@diplobel.fed.be>]

**Verzonden:** vrijdag 27 april 2018 9:06

**Aan:** Jean-David De Lathouwer <[jddl@blue4you.be](mailto:jddl@blue4you.be)>

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**Onderwerp:** RE: Portal DGD

**Urgentie:** Hoog

Dear Mister De Lathouwer,

Dear All,

Sorry for writing down my mail in English but the purpose is to make it understandable by M. McKenzie).

We have carefully read your proposal on the ICT side together with Laurent Barbieri and Benny Botte.

I have collected the comments and remarks that I have tried to summarize here below. Those are only comments from the ICT side.

[Back-End]

- We are still investigating the feasibility of hosting the OIPA server on BuZa side, with possible significant issue from the Security side. There is no certainty yet and we would like to explore alternative options as getting it hosted and serviced by Smals. Option to get hosted jointly to the CMS platform is completely excluded ? Hosting jointly on the CMS platform is completely excluded, though I'm willing to investigate alternative solutions – there is also the possibility of hosting the data on the Cumul.IO platform, but that requires some further analysis and may cause other complications we have not yet evaluated.
- This has also to see with the expected Service Level and monitoring. We understood that refresh of the data is enough on a daily basis but without any major impact if lower



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frequency for some days. But what about availability of the website and its components ? What if the OIPA server is down ? Is the rendering mechanism totally out of service meaning that parts in error will be displayed or is it a kind of last data persistence mechanism ? This has direct impact on the kind of servicing level required on the OIPA service. Since the model was that the OIPA server would serve the data through Cumul.IO in a "live" manner, unavailability of the OIPA service would make the renderings unavailable, there is no provision for data caching or persistence (outside perhaps extremely short term performance-caching). B4Y (James): Cumul.io also mentioned temporary storage (cache) as an option to avoid unnecessary load for repeated requests. If OIPA is down, this would not serve as a reliable solution either. Since if a particular endpoint was not requested prior to the downtime no data would be cached, therefore there would be nothing to serve. It may be worthwhile considering, at SPF Foreign Affairs side, a multi-tier architecture allowing for a 'fallback' option ( e.g. primary/secondary), managed by a load balancer.

- **Who is hosting and servicing Drupal ? BoSa or Blue4you ?** Hosting is on the BOSA DT datacenter, managed at SMALS – service up to the application server level is provided by BOSA DT, maintenance and support of the Drupal software is provided by Blue4You staff but "embedded" in BOSA Service Support and they have direct access to the application servers.

#### [Modules Integration]

- We understand that Blue4you does not provide any warranty related to the successful implementation of the development of the Drupal module for integrating Cumul.io dashboards. However, what is the level of confidence from BoSa that it will be successful ? Is it possible to get an idea of who is the third party who will work on that ? We have a very high level of confidence that it will be succesful, and even if it isn't, we have a high level of confidence that a more ad hoc solution specific to you could be implemented quite easily if necessary – we strongly prefer a generic, reusable solution of course.
- The overall architecture embarks some risks to the lack of experience of any involved party on several components that will be embarked in the solution (being the Cumul.io rendering engine, the integration with Drupal, the OIPA backend, etc.). What is the level of confidence the system will be setup on time and in an operational and manageable way ? While the combination of elements is new, the basic technical concepts are not really new and all components have already demonstrated their ability to implement those concepts, either in operational systems (cfr. The [www.ofo-ifa.be](http://www.ofo-ifa.be) site in which the data on trainings is retrieved from a back-end system and presented in a structured fashion, with integration with other operational systems) and through several proofs-of-concept developed internally at BOSA in cooperation with Blue4You, actually specifically with James, the developer working on your project)

B4Y: We have already allocated substantial resources before and after our April, 11 meeting to carefully analyze the "to-be" technical framework and ensure that all tasks potentially required from Blue4You would be within our technical reach. Having discussed the matter with James two days ago, we are totally confident in our ability to set up the system in an optimized and easily manageable way.

- **How do you foresee to put in place the security mechanisms / authentication between the components (f.i. with OIPA ?)**

#### [Front-End, UX, CMS]

B4Y (James): OIPA backend protocol is 'https' only, a plugin secret token is sent on every request. Regarding the token authentication, OAuth2 is used to delegate access on a specific user basis or we can provide application specific key/token.

- Most of the offer is organized around the backend infrastructure and services and the 'pipes' and 'flows' between the systems and the modules, but at the end, the most important is to have a 'fancy', 'nice', 'responsive', 'easy and nice to use' platform. By my experience, I do consider that the UX work (mockup, graphical style, pages structure, etc.) is one key component in that respect and makes most of the User Experience. I would like to be sure that enough time is foreseen to work closely with the DGD people as well as communication / marketing people to ensure the result will be up to date ... Please give some ideas on the work / time foreseen for defining the screens, flows, etc.

B4Y: as in any project we are taking care of, user's experience is put at the very center of our approach. As such, all digital communication means developed by Blue4You (websites, intranets, apps,...) go through a comprehensive UX/design validation process conducted in an iterative mode with the project stakeholders. Taking this project specifications, we consider that approximately 20 % of the effort (approx.. 30 man days) will be allocated to the creation of wireframes and PSD mock-ups. Here again, we are very confident in our ability to deliver attractive user-centric designs. More so as:

- For more than 15 years, we have gathered a very significant expertise with the implementation of institutional digital communication means. This is namely the case for quite a few EuropeAid / DEVCO projects we were involved in over the years. In this respect, you may be interested to learn that we are currently in the process of extensively restructuring and redesigning the [Capacity4dev portal](#) on behalf of the consortium in charge of maintaining the platform.

- The use of Cumul.io rendering interface will contribute to making the datas displayed in a nice and easily browsable way.

- Accessibility rules are a central focus. This is getting even more important with the EC Accessibility regulations being enforced into Belgian law from September 2018.

- It is mentioned that the HTML / CSS will be developed in a responsive mode ... but what about the cumul.io rendering modules ? Are we going to ensure that they will adapt / adjust to the various used form factors (tablets – mini / standard / pro, smart phones, PC ... ) ? Correctly integrated Cumul.IO dashboards are responsive/adaptive – typically, when developing a Dashboard several layouts are defined on the Cumul.IO system, specific to smartphone/tablet/desktop type screens and the embedded dashboard will adapt automatically – a basic example of such a dynamic adjustment can be seen on <https://statbel.fgov.be/nl/themas/bevolking/structuur-van-de-bevolking#figures> (it's pretty basic there though, I've seen more complex relayouting done cleanly, but that is on a statbel section that is not yet publicly available) – note that on Statbel we are right now implementing an ad-hoc custom solution for this, while awaiting implementation of the more generic Cumul.IO module, so the feasibility of that aspect will be demonstrable in the next few weeks)
- There are few references in the proposal about the static data management on the CMS. I suppose it is agreed on that Static Data will be managed using the Drupal content management functionalities. What do you consider "static data" – if we are talking about "Static Content" in the sense of about/contact/privacy/news/... pages with written text and possibly images – this is done natively with the Drupal CMS and our "Openfed" distribution for Drupal, you may inquire of your colleagues in the Diplomatie communication department for more information, as many of their sites, including [diplomatie.belgium.be](http://diplomatie.belgium.be) are running on our platform – albeit on version 7, while new developments are realized on Drupal 8 – while



the precise needs there will need to be defined/analysed, I don't really expect anything to turn up that would be hard/impossible to realise.

B4Y: just as a side note, Diplomatie website design was created approximately 10 years ago (by Blue4You).

#### [Planning]

- Looking at the proposed effort (and timeframe) from the Blue4you side, we understand that the project on their side must be started early August at the latest to avoid any delivery beyond 2018. Key question on our side is to understand by when the integration of Cumul.io and Drupal – read the development of the Drupal module – must be completed and delivered to still be in the right planning for end of year delivery? - *Question to BoSa – would it be possible to let us know if partner has been identified and what is the work planning and status for the development of this module This should be clarified in the next two weeks – a basic specifications document has been written up and will be shared with the partners today, it contains both an initial version requirement as well as a pathway to enhanced functionality beyond those basics, all in a timeframe to be measured in a couple of months at most IMHO.*
- About the planning hypothesis of 2 days to get answer to questions / decision, I think it is quite ambitious. I would prefer to have something like an ideal of 2 days and a max of 5 days ... what seems to me more realistic ... What would be the impact in terms of project duration with such an hypothesis change?

B4Y: we understand your point. The “2 days rule” is not strictly enforced. It is merely mentioned to highlight the fact that, in case some blocking decisions are lagging behind for several weeks, this may have an impact on the project timeframe. Overall, we are confident that the project can be finalized within the 16-18 weeks timeframe as:

- We have integrated some buffer on the estimated timeframe (elapse time) to account for some delay in the decision making process.

- It is mainly at UX/design time that lack of validation / input may prevent us from moving forward and potentially create a delay. Upon validation of the mock-ups, we will, in most cases, be able to keep moving on other “ project tracks” while awaiting input on some questions raised / proposals. Here again, the vast majority of technical questions will have been discussed / solved prior to starting the development phase.

#### [Maintenance]

- What does include the maintenance? Little evolutions after the warranty period, systems up and running (operations), upgrade of the components? Security updates, updates to the latest version of the Openfed8 Drupal-platform maintained by Blue4You (including fixes in case changes in the platform impact existing functionality), minor change requests/bugfixes as long as they are judged “manageable” by our Service Support team. We are speaking specifically about the Fast2Web hosted Drupal site here – for changes that interact with Cumul.IO, there is some support by the Cumul.io service provider, but changes/interventions on the OIPA backend or through major changes on the other elements are not included in the maintenance fee and would probably (B4Y will need to clarify/confirm) need to be handled as Change Requests for which daily rates will apply.

Purpose of all those remarks and questions is to refined further the proposition in such a way an educated decision can be taken at BuZa side. As mentioned in the intro, those are only the ICT comments and view.

Best Regards

The ICT team [i.e. Benny, Laurent and Alain]

Dear Sirs,

As announced, we have reviewed your proposal with the DGD department. There are no further comments than the ones we already shared with you, but the OIPA back-end hosting that BuZa ICT will not be in position to deliver. For this last topic, we would need some further suggestions from your side.

From there, we would like to move further and that you address a formal proposal to the DGD department – actually Mrs. Patricia De Jonghe – including in offer the answers you gave to the elements we raised in our questions where appropriate. Please note that the proposal must come through BoSa referring to the existing frame contract with BoSa.

I take the opportunity of this mail to quickly recap those topics we raised for which your answer should ideally be included in the formal proposal. I have explicitly mentioned the question about the OIPA hosting as well as a question on the supportability by OIPA of extended IATI messages (with some non IATI XML namespaces) – both are in red in the below sections.

[Back-End]

- Back-end solution for OIPA – as stated above, BuZa will not be able to host the OIPA DB, for operational and security reasons. It has been investigated with responsible of the three infrastructure, operations and security teams and the answer is unanimously negative. An alternative should be proposed for this piece.
- New question – would the OIPA DB support the usage of free additional XML tags (namespaces) that would not be initially foreseen in the standard IATI model ?
- Please specify in the proposal that Drupal is hosted on the BoSa DT datacenter managed at Smals- platform is managed and serviced by BoSa DT – Drupal application is supported by Blue4You embedded in the frame of the BoSa Service Support

[Modules Integration]

- Integration Cumul.io and Drupal – please specify the level of high confidence you have in the successful generic, reusable integration of both modules (by far our preference) or a more ad hoc solution specific that could be specific.

[Front-End, UX, CMS]

- UX Design – please specify the typical planning and level of effort that will be involved on your side in the UX definition and design as well as the expectations you have in terms of involvement and effort on BuZa side to be able to deliver on time. This is definitely one of the key elements of this project as we are intending to setup something innovative in terms of fanciness, easy usage, attractiveness. We must keep in mind that the person for whom this solution is being setup is also responsible for the Belgium Digital Agenda and a typical digital lover ;).
- Descriptive Text Data (and possibly images) – please specify the usage of the Drupal as CMS platform for the management of the descriptive content (text, image). Some time must be foreseen in the proposal for the proper training of the DGD content managers on how to use the tools.

#### [Planning]

- Can you please update the planning, confirming the 'on time' delivery of the integration of Cumul.io and Drupal as well as the key period where DGD resources should be involved, assuming a start date around mid-june.
- By the way, Is this partner who should help on the integration Cumul.io : Drupal already identified and possibly already involved.
- Answer / Decision delay – As stated already, we can mention a formal delay of some days in the proposal for getting a decision, however this delay must be longer than 2 days to be realistic (5 days would be great). Particularly important, indeed, when dealing with UX.

#### [Maintenance]

- Depending of the total amount of the project, we would include some years of maintenance (ideally 4 or 5) in the proposal (ordered at once but paid annually).

I stay at your disposal if you have any question or remark.  
Thanking you in advance.

Best regards

Alain de Galembert

Kind regards - Cordialement - Met vriendelijke groeten

**Alain De Galembert** | Consultant | ICT 0.1

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## Annexe 3 : Analyse technique préliminaire

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### IATI integration for Coopération au Développement

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#### Technical Analysis

#### Revisions

Version	Comment	Author	Date
V0.1	Initial version	James MacKenzie	26/03/2018
V0.2	Amendments based on discussion with Bart Declercq	James MacKenzie	29/03/2018
V0.3	Cumul.io in depth analysis added	James MacKenzie	16/04/2018

## 1. Introduction

## 2. OIPA

### 2.1. Setup

#### 2.1.1. API

#### 2.1.2. Data

#### 2.1.3. Dashboard

### 2.2. API docs

#### 2.2.1. Authentication

#### 2.2.2. POST /api/publisher/<publisher\_id>/api\_key/verify/

#### 2.2.3. POST /api/publisher/<publisher\_id>/api\_key/remove/

## 3. Cumul.io integration

### Cumul.io 'plugin' feature for exposing data sets

#### Initial tasks

## 4. Drupal

### 4.1. Integration

## 5. Hosting

### 5.1. Docs

## 6. Bugs / Missing resources

### 6.1. Issue list

## 7. Conclusion

## 8. Links



- 1. Introduction

This document details the analysis of implementing software to extract published IATI XML files from the IATI Registry. It will also cover information regarding the rendering engine and Drupal integration.

- 2. OIPA

Open-source github project under the AGPLv3 licence, it appears to be actively maintained since July 2016. I have provisioned an environment locally with a working copy which successfully imports the XML data from IATI.

### 2.1. Setup

OIPA directory mounted into /vagrant on VM, which harnesses the advantages of vagrant providing a deployable environment isolated to the package, which include:

- OS Based on Ubuntu 16.04.
- VM maintains dependencies:
  - Postgres 9.1+
  - Redis
  - Supervisor
  - GeoDjango dependencies: GEOS, PROJ.4, PostGIS

For more information on requirements see:

<https://requires.io/github/zimmerman-zimmerman/OIPA/requirements/?branch=master>



- 2.1.1.1. API

RESTful based, JSON / CSV formats supports, provides a set of categorised endpoints for retrieving data sets.

## REST API

The REST API provides programmatic access to read (and soon also write) IATI data. The REST API responses are available in JSON.

## Available endpoints

- Activities: `/api/activities`
- Publishers: `/api/publishers`
- Organisations: `/api/organisations`
- Results aggregations: `/api/results/aggregations`
- Locations: `/api/locations`
- Cities: `/api/cities`
- Datasets: `/api/datasets`
- Sectors: `/api/sectors`
- Countries: `/api/countries`
- Transactions: `/api/transactions`
- Regions: `/api/regions`
- Budget aggregations: `/api/budgets/aggregations`
- Codelists: `/api/publishers`
- Chains: `/api/chains`

GET `/api/`

HTTP 200 OK

Allow: OPTIONS, GET  
Content-Type: application/json  
Vary: Accept

```
{
  "endpoints": {
    "activities": "http://192.168.88.89:8000/api/activities/",
    "publishers": "http://192.168.88.89:8000/api/publishers/",
    "organisations": "http://192.168.88.89:8000/api/organisations/",
    "results": "http://192.168.88.89:8000/api/results/aggregations/",
    "locations": "http://192.168.88.89:8000/api/locations/",
    "cities": "http://192.168.88.89:8000/api/cities/",
    "datasets": "http://192.168.88.89:8000/api/datasets/",
    "sectors": "http://192.168.88.89:8000/api/sectors/",
    "countries": "http://192.168.88.89:8000/api/countries/",
    "transactions": "http://192.168.88.89:8000/api/transactions/",
    "regions": "http://192.168.88.89:8000/api/regions/",
    "budgets": "http://192.168.88.89:8000/api/budgets/aggregations/",
    "codelists": "http://192.168.88.89:8000/api/codelists/",
    "chains": "http://192.168.88.89:8000/api/chains/"
  }
}
```

- 2.1.2. Data

Data is synchronized in a normalised PostgreSQL database, there is an admin interface for managing the synchronization process via a task queue that can scheduled incrementally.

#### Task queues

Name	Queued Jobs	Active Jobs	Finished Jobs	Number of Workers
default	0	0	0	1
document_collector	0	0	0	1
export	0	0	0	1
parser	5218	2	17	2
failed	0	-	-	-

#### Worker details

Name	Status	Current Job
Parser worker 2	busy	parse_source_by_id(1266)
Default worker	idle	None
Document collector worker	idle	None
Parser worker	busy	parse_source_by_id(2014)
Export worker 1	idle	None

#### Default queue

Task	Args	Remove
No tasks in the queue.		
<a href="#">Clear default queue</a>		

#### Parser queue

Task	Args	Remove
parse_source_by_id	2016	<input type="checkbox"/>
parse_source_by_id	2027	<input type="checkbox"/>
parse_source_by_id	2048	<input type="checkbox"/>

- 2.1.3. Dashboard

There is a minimalistic dashboard for managing imported data, which you can analyze and manipulate manually.

## Site administration

<b>IATI management</b> Codelists + IATI XML sources + Publishers +	<b>Recent Actions</b> <b>My Actions</b> None available
<b>IATI organisation standard</b> Organisations +	
<b>Geographic data</b> Admin1 regions + Cities + Countries + Regions +	
<b>Exchange rates</b> Monthly averages +	
<b>Authentication and Authorization</b> Groups + Users +	
<b>Sites</b> Sites +	

## 2.2. API docs

Reference: <http://docs.oipa.nl/en/latest/>

- 2.2.1. Authentication

Key info extracted from the API docs:

*In order for a user to join the admin group, the user must first authenticate with the IATI registry.*

*For verifying the API key the following endpoints exist:*

- 2.2.2. *POST /api/publisher/<publisher\_id>/api\_key/verify/*

*Requires two arguments: **apiKey**: the IATI registry CKAN api key **userId**: the IATI registry CKAN user id*

*This validates the user with the API registry and creates the corresponding OrganisationGroup and OrganisationAdminGroup models if they do not exist yet.*

*Note: this API call assumes that publisher\_iati\_id is defined correctly on the organisation in the IATI registry. This must map directly to the iati identifier for the main organisation that reports this organisation.*

*This API call returns a **token** that must be used in subsequent activity and organisation API calls.*

*Using this token the user can perform activity and organisation CRUD and add/remove users from the groups.*

- 2.2.3. *POST /api/publisher/<publisher\_id>/api\_key/remove/*

*Disassociates the user from the publisher by removing the user from the OrganisationAdminGroup and OrganisationGroup*

- 3. Cumul.io integration

Regarding Cumul.io integration, information gathered based on a preliminary overview of the API and tests in the platform UI based on a trial account.

Cumul.io 'plugin' feature for exposing data sets

The plugin feature basically would act as a flexible data adapter between our API and Cumul.io. We would register a Plugin on the Cumul.io web interface. Development would occur to create plugins for specific RESTful endpoints or a collection, depending on the data required. In Cumul.io they get exposed as "Datasets", with the source data coming from OIPA back-end. Each extension to support the Cumul.io plugin(s) feature can remain packaged as a part of the instance where OIPA framework resides.

Key points:

- No data is stored in Cumul.io
- Custom Plugins connect and expose the REST API endpoints of OIPA back-end as Cumul.io datasets in the UI, so we can construct dashboards.
- Dashboards with Graphs/Charts are built in the Cumul.io UI as standard
- Embedding dashboard will be using iFrames as standard (there are possibilities manipulating the child/parent elements of the iframe windows he mentioned)

More info see: [Cumul.io Plugins](#)

- Initial tasks

Assuming we develop plugin(s) via Cumul.io:

- Define different dashboard types
- Define Cumul.io plugin types for integration
  - Configuration Cumul.io plugins
  - Remote instance of OIPA set-up on B4U server
  - OIPA integration tests with Cumul.io
  - Security/authentication set-up (oAuth, API Key, or API Key + Token)
- Develop Plugin connectors for exposing data via REST

- 4. Drupal

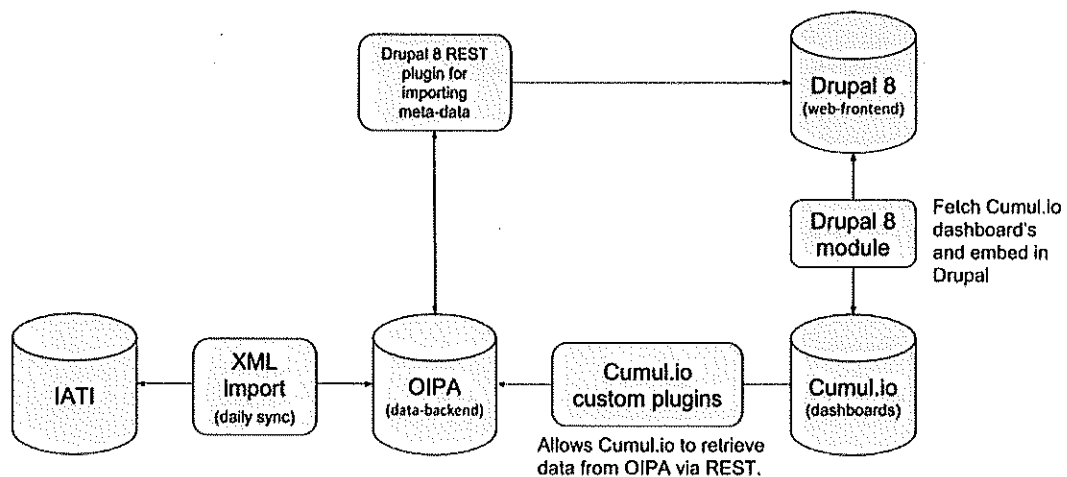
#### 4.1. Integration

Drupal site will be based on Openfed 8, the back-end interface for OIPA will be accessed independently.

The Drupal site will be implemented as a skeleton, there will be a Drupal module which embeds dashboards from Cumul.io.

Drupal will import a sub-set of metadata isolated to text-based queries. We will define the relevant data types and provide a SOLR implementation to handle common search queries. We will use **YAML structures** to import the metadata periodically.

Diagram below demonstrates the process flow between different data stores:



- 5. Hosting

We could provide a snapshot of the vagrant machine for hosting on a production environment, then we may decide to use Puppet/Chef/Docker to manage the OS config changes when manipulating our VM locally. This is important to ensure updates to important elements regarding the GitHub project are maintained with relative ease, e.g. software dependencies.

#### 5.1. Docs

- <https://www.vagrantup.com/docs/provisioning/docker.html>
- [https://www.vagrantup.com/docs/provisioning/puppet\\_apply.html](https://www.vagrantup.com/docs/provisioning/puppet_apply.html)
- <https://www.hashicorp.com/blog/vagrant-push-one-command-to-deploy-any-application>

- 6. Bugs / Missing resources

Whilst I didn't notice any blocking issues it's quite possible OIPA API lacks specific resources from the IATI platform or presents bugs that requires developer intervention, like with any open-source software we can do our best to raise issue through the GitHub repository and apply/implement patches where applicable.

#### 6.1. Issue list

- <https://github.com/zimmerman-zimmerman/OIPA/issues>

- 7. Conclusion

The query interface using "q" param for text search's (see - <https://www.oipa.nl/api/activities/>) through the REST API is not reliable enough as a "stand-alone" mechanism. For which we would offer "real-time" requests in order to deliver filterable data, via a search engine for example. It doesn't seem to function correctly when performing tests.

The Drupal module for supporting visualization of Cumul.io dashboards will be developed externally from Blue4you so we cannot ensure successful implementation.

- 8. Links
- IATI data:
  - <https://www.iatiregistry.org/using-iati-data>
- Back-end API parser for IATI data:
  - <https://github.com/zimmerman-zimmerman/OIPA>
- Rendering engine for statistical data:
  - <http://documentation.cumul.io/apidocs.html>

<https://d3js.org/> & <http://nvd3.org/> (open-source)

