



EAF/6/2

ORIGINAL: English

DATE: October 21, 2015

# INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

## MEETING ON THE DEVELOPMENT OF A PROTOTYPE ELECTRONIC FORM

### Sixth Meeting Geneva, October 26, 2015

#### OVERVIEW OF THE PROTOTYPE ELECTRONIC FORM PROJECT

*Document prepared by the Office of the Union*

*Disclaimer: this document does not represent UPOV policies or guidance*

1. The purpose of this document is to report on developments since the fifth meeting on the development of a prototype electronic form (EAF), held in Geneva on March 25, 2015, and to present proposals for future developments.

2. The structure of this document is as follows:

BACKGROUND .....	2
Prototype 1 (P1) .....	2
Actions and program agreed at the fifth meeting .....	2
Prototype 2 (P2) .....	3
DEVELOPMENTS SINCE THE FIFTH MEETING .....	3
PVP-XML Schema.....	3
Test campaigns P1 .....	3
EAS Questionnaire .....	3
FUTURE PROGRAM AND NEXT STEPS .....	4
Validation of P1 .....	4
Development of P2 .....	4
Test campaigns P2.....	7
Implementation of an operational system.....	7
Timetable .....	7

## BACKGROUND

3. The background to the development of a prototype electronic form and previous developments are provided in document EAF/5/2 "Overview of the Prototype Electronic Form Project".

4. At the fourth meeting on the development of a prototype electronic form ("EAF/4 meeting"), held in Geneva on October 14, 2014, it was confirmed that the participating members of the Union were: Argentina; Australia; Brazil; Canada; Colombia; Dominican Republic; Ecuador; European Union; France, Germany, Japan; Mexico; Netherlands; New Zealand; Paraguay; Republic of Korea; Switzerland; United States of America and Viet Nam (see document EAF/4/5 "Report", paragraph 22), with other partners being: the Community Plant Variety Office of the European Union (CPVO), WIPO, ISF, CIOFORA and UPOV.

### Prototype 1 (P1)

5. The aim of Prototype 1 (P1) is to demonstrate the feasibility of the project including data transfer from breeders to participating PVP Offices, in terms of data completeness and in conformity with the agreed data model.

6. P1 is composed of the online form, and the data transfer facility through web services according to an agreed format (i.e. PVP-XML schema). The P1 should allow:

- (a) users<sup>\*</sup> to select the language in which the items in the Application Form for PBR would be presented (restricted to English for the P1 (see document EAF/3/3 "Report", paragraph 10));
- (b) users to select the crop for which they want to make an application (restricted to lettuce (*Lactuca sativa* L.) for the P1 (see document EAF/3/3 "Report", paragraph 10));
- (c) users to select the authority in which they want to make an application (one PVP Office at a time, but with the possibility to reuse data already submitted). The selection is restricted to the participating members who have submitted their forms and data, namely Australia, Brazil, Canada, European Union, Japan, Netherlands, New Zealand, Republic of Korea, United States of America and Viet Nam (see documents EAF/3/3 "Report" and EAF/4/5 "Report", respectively paragraphs 11 and 8));
- (d) users to complete a blank form or a prefilled form based on existing PBR application data using an agreed format (PVP-XML);
- (e) users to choose to store the input data in an associated database (hosted by UPOV), in order, for example, to allow its reuse in other applications.
- (f) users to send/submit the input data to the selected PVP Office.

7. At the fifth meeting on the development of a prototype electronic form ("EAF/5 meeting"), held in Geneva on March 25, 2015, the participants were informed that the next phase of the development of the prototype would start in April 2015 and would focus on the data exchange functionalities (import/export facility) and on the on-line electronic form (user interface). Participating members would be invited to test the system in stages, through different interim releases, in order to obtain regular feedback. Comments would be taken into consideration for the development of subsequent releases in order to have a fully functioning prototype by August 2015, for a final test campaign in September 2015, before presentation at the sessions of the Administrative and Legal Committee (CAJ) and the Consultative Committee in October 2015, as appropriate (see document EAF/5/4 "Report", paragraph 6).

### Actions and program agreed at the fifth meeting

8. At the EAF/5 meeting, the participants received a presentation on the proposal for the program for development of Prototype 1 (see document EAF/5/4 "Report", paragraph 10):

---

\* The term "user" is used instead of "applicant" or "breeder", in order to avoid any implication that the use of the Linear Blank Form for PBR Applications might indicate that an application is being filed for a plant breeder's right.

<u>Test Campaign</u>	<u>Milestone Release (MR) Contents/ Functionalities to be tested</u>
Release 1	Login , Create new application with export application data as XML
Release 2	Create new application from existing XML data, Save, Submit new application, User feedback from MR1
Release 3	Dashboard, View Recommendations, Copy application, Edit Application, User feedback from MR2
Release 4	Remove Application, PDF View, User feedback from MR3
Final Release	Full prototype

9. In Prototype 1 users will be able to start a new application from scratch (i.e. blank form), or by reusing existing data in XML format (i.e. copy data from existing submitted application, upload application data), or by a combination of approaches.

#### Prototype 2 (P2)

10. At the EAF/5 meeting, the participants noted that the aim of the Prototype 2 (P2) would be to demonstrate the scalability of the system, i.e. addition of new crops, new languages and new PVP Offices, and also to demonstrate the feasibility of its implementation at the authority level.

### DEVELOPMENTS SINCE THE FIFTH MEETING

#### PVP-XML Schema

11. It was noted at the EAF/4 meeting that the XML Schema to be used for the project (i.e. PVP-XML) would, as far as possible, reuse and refer to relevant components of the WIPO Standard ST.96. It was agreed that components that were not covered by the ST.96 standard would be described and developed on the basis of the ST.96 Annex I (Design Rules and conventions) and UPOV XML Design Rules and Conventions (DRCs). It was agreed that the PVP-XML would be updated in line with ST.96, as appropriate; however, it was not planned for the PVP-XML to be prepared for adoption as a WIPO standard. The meeting was informed that participating members would be invited to provide data in order to test the PVP-XML Schema to ensure compatibility with their systems (see document EAF/4/4 "Report", paragraph 8).

12. The PVP-XML V1.0 Schema to be used for the development of the prototype was released on October 7, 2015 including UPOV Design Rules and conventions (DRCs) V1.0, PVP Data Dictionary V1.0, PVP XML Schemas and PVP XML Technical Specifications, and will be made available on the UPOV website.

#### Test campaigns P1

13. On May 14, 2015, June 22, 2015, July 20, 2015, September 7, 2015 and on October 7, 2015, participants in the EAF project were provided with an on-line presentation from the Office of the Union on the latest developments in relation to the project and explanations for each of the five test releases (Circulars E-15/111, E-15/138, E-15/154, E-15/186, E-15/198). Participants were given two weeks to test the system on-line for each release, and comments made were addressed and taken into consideration for the development of test releases.

#### EAS Questionnaire

14. The purpose of the questionnaire was to make sure that all remaining issues would be addressed in the development of Prototype 2. In particular, to facilitate the discussions during the EAF/6 meeting on the specific legal and technical aspects of the project, an on-line questionnaire was sent to the participating members in the EAF to obtain information on possible requirements that PVP Offices might have with regard to legal, administrative and technical matters concerning a UPOV electronic application system (Circular E-15/168 of August 7, 2015).

15. The results of the questionnaire are presented in document EAF/6/3 "EAS Questionnaire".

## FUTURE PROGRAM AND NEXT STEPS

### Validation of P1

16. The participating members in the EAF will be invited at the EAF/6 meeting, to consider if P1 demonstrates the feasibility of the project, including data transfer from breeders to participating PVP Offices in terms of data completeness and in conformity with the agreed data model.

17. On the basis of comments made during the test campaigns, a list of pending requirements have been identified and posted on the on the wiki space UPOV\_EAS, and will be taken into consideration for development of P2.

### Development of P2

18. At the EAF/5 meeting, the participants agreed that the following items would be considered as a next phase of the project (P2) and should be discussed at the EAF/6 meeting (see document EAF/5/4 "Report", paragraph 16):

- (a) Payment modalities and user authentication;
- (b) Different languages;
- (c) Addition of other crops (e.g. potato, rose, apple);
- (d) Possibility for participating UPOV members to introduce or modify their questions in the form using an online interface;
- (e) Legal aspects [and disclaimers];
- (f) Compliance with Web Content Accessibility Guidelines (WCAG);
- (g) Security requirements such as:
  - (i) Data confidentiality;
  - (ii) Access rights management;
- (h) High availability (HA) of the system;
- (i) Communication with existing and external systems such as :
  - (i) GENIE Database;
  - (ii) WIPO User Accounts;
  - (iii) Existing systems in PVP Offices;
- (j) Architecture of the system.

19. On the basis of the previous discussions, including during the test campaigns of P1, and the results of the questionnaire (see document EAF/6/3 "EAS Questionnaire), the following elements are proposed for P2:

- (a) *Payment modalities and user authentication*
  - (i) Payment modalities
    - *Payment for PVP Offices*

20. Two different options would be developed:

- payment to PVP Offices via UPOV;
- direct payment to PVP Offices.

The Payment gateway, currency accepted and method(s) would be investigated during the test campaigns.

21. It is recalled that a demonstration of payment method for fees (e.g. electronic payment) was made at the EAF/3 meeting by the WIPO External Web Applications Section. It was agreed that it would be necessary

to provide the possibility for applicants to pay in different currencies (e.g. CHF, US\$, €) and to include a fee calculator (see document EAF/3/3 "Report", paragraph 20).

- *Payment for UPOV service charge*

22. The possibility of a UPOV service charge will be integrated in P2. Different options will be investigated during the test campaigns.

(ii) User authentication

23. It is recalled that the possible options for level of authentication (i.e. user name and password, digital certificate, electronic signature) were presented at the EAF/3 meeting by the WIPO External Web Applications Section, giving the example of an existing WIPO Identity Management (IDM) system for authentication of users. It was agreed to follow the same approach for the development of the prototype electronic form (see document EAF/3/3 "Report", paragraph 19).

24. Two options would be developed:

- through web service at the EAF level (i.e. authorization for signature to be done in the EAF system);
- after receipt of the application by the PVP Office (i.e. authorization for signature to be done by the selected PVP Office).

(b) *Different languages*

25. It is recalled that the CAJ, at its sixty-sixth session, held in Geneva on October 29, 2012, endorsed the development of a prototype electronic form for interested members of the Union and agreed that the key aspects of the prototype from the perspective of members of the Union, for languages, would be as follows (see document CAJ/66/8 "Report on the Conclusions", paragraphs 22 and 23):

Languages: The UPOV electronic form would present all items (questions) in English, French, German and Spanish. Translations for all items (questions) in other languages would be provided by the participating members of the Union, with a suitable disclaimer.

26. On the above basis, the participating members for P2 would be requested to provide their application forms in their original languages, and if the original language is not English, French, German or Spanish, to provide a translation into English, French, German or Spanish. The participating members would also be required to translate all questions into the necessary languages other than English, French, German or Spanish.

27. Each participating PVP Office would be requested to provide information on the language(s) in which answers could be provided.

(c) *Addition of other crops (e.g. potato, rose, apple), or other PVP Office*

28. The CAJ, at its sixty-sixth session in Geneva on October 29, 2012, endorsed the development of a prototype electronic form for interested members of the Union and agreed that the key aspects of the prototype from the perspective of members of the Union, for crop/species to be included in the project, would be as follows (see document CAJ/66/8 "Report on the Conclusions", paragraphs 22 and 23):

Crops/species: Crops/species for the prototype would be one or more of:

Wheat (*Triticum aestivum* L.); Maize (*Zea mays* L.);  
 Potato (*Solanum tuberosum* L.); Lettuce (*Lactuca sativa* L.);  
 Tomato (*Solanum lycopersicum* L.); Pea (*Pisum sativum* L.);  
 and Ryegrass (*Lolium* L.);

and one or more of:

Rose (*Rosa* L.); Chrysanthemum (*Chrysanthemum* L.);  
 Carnation (*Dianthus* L.); Pelargonium (*Pelargonium* L'Hér. ex Ait.);  
 Petunia (*Petunia* Juss.); Peach (*Prunus persica* (L.) Batsch);

and Apple (*Malus domestica* Borkh.).

Participating members of the Union would be able to select the crops/species in which to participate, i.e. the UPOV electronic form for each crop/species could have different participating members of the Union. The selection of the crops/species for the prototype would be made by the Office of the Union in consultation with the participating members of the Union, ISF and CIOPORA.

29. With regard to work after October 2015, it was proposed at the EAF/5 meeting, to extend the prototype to cover potato, rose and apple (see document EAF/5/4 "Report", paragraph 13).

30. Application and Technical Questionnaire information of new crops to be included in P2, would need to be provided by participating members to the Office of the Union by November 30, 2015, in order to establish the scope of P2.

(d) *Possibility for participating UPOV members to introduce or modify their questions in the form using an online interface*

31. P2 will be developed on the basis that questions can be added or modified once a month. New Authorities' forms would need to be added by March 2016.

(e) *Legal aspects [and disclaimers]*

32. In relation to legal aspects, it was noted at the EAF/3 meeting that the EAF would need to respect national or regional legislation (e.g. disclaimer, communication, correspondence route) (see document EAF/3/3 "Report", paragraph 27).

33. For the development of P2, in relation to terms and conditions, it is suggested that they would be provided by the PVP Office, and acknowledgement would be integrated within the EAF terms and conditions, where appropriate. In other cases, a separate procedure would be required at the level of Authority. At the EAF system level, the terms and conditions would be included separately, in that case the user should accept it at the first connection; and at the application level, the terms and conditions would be included in the application form (i.e. specific to each application and completed in the declaration chapter).

34. Participating members would also be invited to provide to the Office of the Union by November 30, 2015, information on any other legal requirements to be addressed in the EAF system.

(f) *Compliance with Web Content Accessibility Guidelines (WCAG)*

35. Consideration would need to be given on which extent the system should be compliant with Web Content Accessibility Guidelines (WCAG).

(g) *Security requirements in terms of Data confidentiality and Access rights management*

36. In relation to security requirements in terms of access rights management and data confidentiality, it is suggested that the EAF would need to comply with WIPO and PVP offices' security policies and data should be encrypted and considered highly confidential.

(h) *High availability (HA) of the system*

37. It is proposed that the system would work continuously, with a tolerance of 1 day for the system to be out of operation.

(i) *Communication with existing and external systems such as GENIE Database; WIPO User Accounts; Existing systems in PVP Offices*

38. It is proposed that it would be possible to use different communication channels as specified by the receiving PVP Office (web service, email, SFTP: Secure File Transfer Protocol).

(j) *Architecture of the system*

39. It is proposed that all preceding items will be considered when drafting the architecture of the system, in consultation with participating members, in the scope of the implementation of an operational system.

(k) *International Reference Number (IRN) and unique Breeder's reference*

40. It is proposed that a unique IRN be allocated to a particular variety. All submissions of data to participating PVP Offices, for the same variety, would be attributed the same IRN. It is proposed that technical questionnaire data could only be copied when the same IRN is used. Consideration would also need to be given to whether it should be possible for the user to change the breeder's reference after a variety file has been copied, in order to allow the user to provide a different breeder's reference for the same variety to a different PVP Office. It is suggested to verify the functioning of the system during the development of P2.

Test campaigns P2

41. It is proposed that the participating members in the EAF be invited to test the system (with test data) for P2 in stages, through different interim releases, in order to obtain regular feedback. Comments would be taken into consideration for the development of subsequent releases in order to have a fully-functioning prototype by August 2016 for a final test campaign in September 2016, before presentation at the sessions of the CAJ and the Consultative Committee in October 2016, as appropriate. An interim report would be made at the seventh meeting of the development of an electronic application form, to be held in Geneva at the fringes of UPOV March sessions in 2016.

42. It is suggested to ask participants to provide information as follows:

- application forms for selected crops;
- application forms for additional PVP Offices;
- translation of questions in languages other than English, French, German or Spanish;
- documentation on legal aspects;
- documentation on security policies;
- additional documentation and other information.

43. It is proposed that only participants who provide the necessary level of information to the Office of the Union by November 30, 2015, as indicated above, could be assured that the information and requirements would be integrated/ taken into consideration in P2. Participants would also need to allocate time and resources (including the person(s) with relevant IT and/or legal knowledge) to comment and test all functionalities, including legal requirements, during the period November 2015 to October 2016.

Implementation of an operational system

44. Subject to agreement, it is suggested that the following items would be considered in parallel with the development of P2, for the launch of an online system:

- (a) Agreement on fees;
- (b) Operations such as:
  - (i) application support;
  - (ii) routine maintenance provisions;
- (c) Support for final users (e.g. training, guidelines).

45. The CAJ and the Consultative Committee at their sessions in October 2016 will receive a presentation of the project and the proposed timetable for the development of a functioning online system.

Timetable

46. Participating members will receive a presentation of the project brief and the proposed detailed timetable for the development of P2 at the EAF/6 meeting.

47. *Participating members in the development of a prototype electronic form are invited to:*

*(a) note the developments of a prototype electronic form since the EAF/5 meeting, as set out in this document;*

*(b) consider if P1 demonstrates the feasibility of the project, including data transfer from breeders to participating PVP offices, in terms of data completeness and in conformity with the agreed data model;*

*(c) consider the proposal for the next steps of the EAF as set out in paragraphs 19 to 44;*

*(d) note that a report of the sixth meeting on the development of a prototype electronic form, to be held in Geneva on October 26, 2015, will be made to the CAJ at its seventy-second session and the Consultative Committee at its ninetieth session; and*

*(e) consider the timetable for the test campaigns and the development of the project, as presented at the sixth meeting.*

[End of document]