

E-training for women in patenting procedures – a European view

E-szkolenia dla kobiet w składaniu wniosków patentowych – perspektywa europejska

Key words: patent application, women inventors, Intellectual Property, *ip4women*, e-learning, e-mentoring.

Słowa kluczowe: wniosek patentowy, kobiety wynalazcy, własność intelektualna, *ip4women*, e-learning, e-mentoring.

Streszczenie. Z przeprowadzonej diagnozy stanu wynika, że kobiety stanowią znaczną mniejszość w grupie osób zgłaszających i w konsekwencji uzyskujących patenty. Rozwój nowoczesnych technologii przynosi nowe możliwości dla kobiet, które z powodu ograniczonego czasu i braku dedykowanego profesjonalnego doradztwa mniej aktywnie uczestniczą w składaniu wniosków patentowych na rzecz rozwoju przemysłu. Zaprezentowane w artykule studium przypadku międzynarodowego projektu *ip4Women* pokazuje, że odpowiednio zaprojektowane szkolenie e-learning dopasowane do potrzeb grupy docelowej oraz świadczenie usług e-mentoringu poprzez specjalnie zaprojektowaną platformę internetową stanowią szansę dla kobiet na aktywne uczestnictwo w składaniu wniosków patentowych i rozwiązań dla przemysłu poprzez doskonalenie kompetencji zawodowych w tym obszarze.

Prezentowane wyniki międzynarodowych badań zostały uzyskane w ramach projektu *ip4Women*, program *Erasmus+*. Tematyka badawcza wpisuje się jednocześnie w inicjatywę UNESCO, ONZ – Women oraz World Intellectual Property Organization WIPO pod hasłem: „Science – Innovation – Entrepreneurship: Closing the Gender Gap to Meet the SDGs” / „Nauka – Innowacja – Przedsiębiorczość: Zmniejszenie nierówności płciowej na drodze do osiągnięcia Celów Zrównoważonego Rozwoju”.

Background. The diagnosis of the condition shows that women constitute a significant minority in the group of applicants and, consequently, obtaining patents. The development of modern technologies brings new opportunities for women who, due to the limited time and lack of dedicated professional advice, are less actively involved in filing patent applications for the development of industry. The case study of the international Erasmus+ project *ip4Women* presented in the article shows that properly designed e-learning training tailored to the needs of the target group and the provision of e-mentoring services through a specially designed internet platform provide an opportunity for women to actively participate in filling patent applications and solutions for the industry through improving professional skills in this area.

Patent applications in Europe. There are three main definitions to be considered when discussing the issue of Intellectual Property (IP), i.e. copyright, patent and trademark. The article treats in deeper details the issue of patents.

According to World Intellectual Property Organization (WIPO, 2018) *a patent is an exclusive right granted for an invention. Generally speaking, a patent provides the patent owner with the right to decide how, or whether, the invention can be used by others. In exchange for this right, the patent owner makes technical information about the invention publicly available in the published patent document.*

The leaders in patent applications in the world are China, Japan and The United States, followed by Denmark, France, Switzerland, Netherlands in Europe.

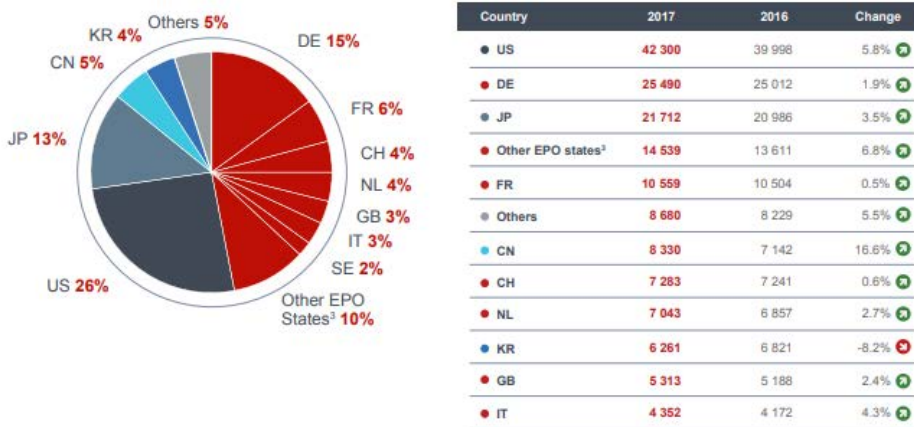


Fig. 1. European patent applications per country of origin

Source: European Patent Office Annual Report 2017, p. 2.

[http://documents.epo.org/projects/babylon/eponet.nsf/0/B01321A30990659DC1258248002D2251/\\$File/european_patent_applications_en.pdf](http://documents.epo.org/projects/babylon/eponet.nsf/0/B01321A30990659DC1258248002D2251/$File/european_patent_applications_en.pdf)

³EPO states: the 38 member states of the European Patent Organisation, which includes the 28 states of the EU.

According to this report, there are top ten technical areas with the largest number of patent applications representing 53% of the total number of European applications: medical technology; digital communication; computer technology; electrical machinery, apparatus, energy; transport, measurement, organic fine chemistry; pharmaceuticals; biotechnology; other special machines (Fig. 2).

The picture shows that the highest increase in patenting applications occurred in biotechnology (+14.5%) with Hoffmann-La-Roche, DSM, NOVOZYMES as top applicants, followed by pharmaceuticals (+8.1%) with INSERM, MERCK & CO, BAYER as top applicants, and measurement (+6.6%) with SIEMENS, ROYAL PHILIPS, BOSCH as top applicants. At the same time, biotechnology and pharmaceuticals are the areas in which women inventors were represented in the highest rates of applications in 2017 (WIPO, Geneva 2018, p. 38).



Fig. 2. Top ten technical areas of patent applications

Source: European Patent Office Annual Report 2017, p. 3.

[http://documents.epo.org/projects/babylon/eponet.nsf/0/B01321A30990659DC1258248002D2251/\\$File/european_patent_applications_en.pdf](http://documents.epo.org/projects/babylon/eponet.nsf/0/B01321A30990659DC1258248002D2251/$File/european_patent_applications_en.pdf)

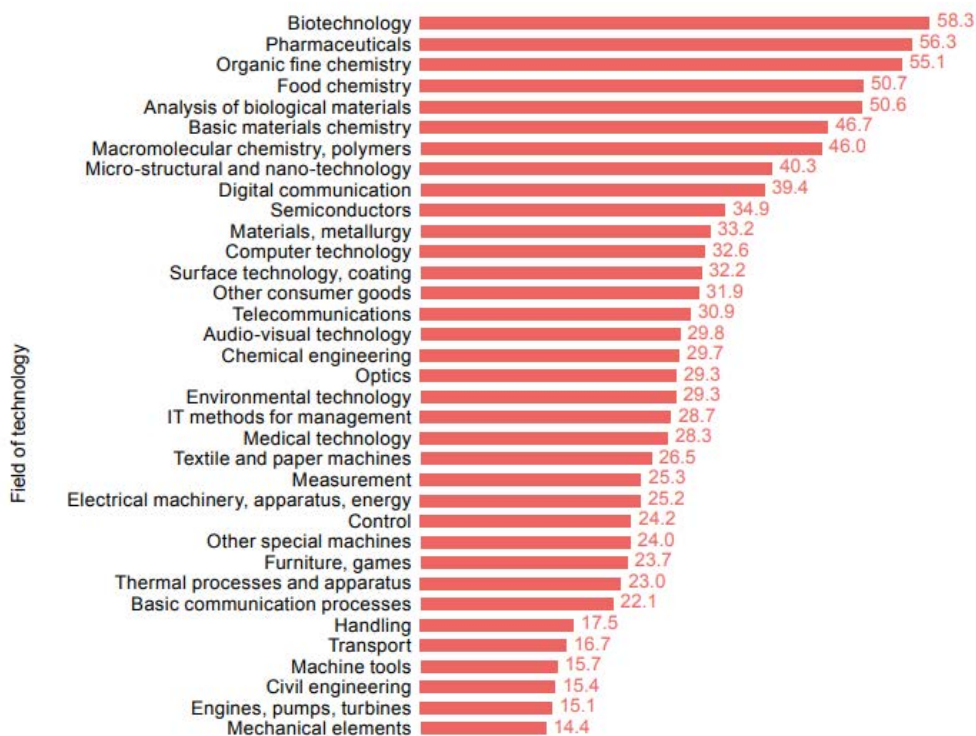


Fig. 3. Share of applications with women inventors by field of technology [%]

Source: World Intellectual Property Organization (WIPO), PCT Yearly Review 2018: The International Patent System. Geneva: WIPO, p. 38.

https://www.wipo.int/edocs/pubdocs/en/wipo_pub_901_2018.pdf

According to World Intellectual Property Organization (WIPO, Geneva 2018) men and women are equally creative and innovative. However, women still remain underrepresented in many areas. Since several years, WIPO has been promoting gender equality in IP matters. While the number of applications with women inventors has nearly doubled since 2007, what gives 31.2% of all applications with women inventors, the numbers are expected to balance out only in 2076, assuming that the trend continues.

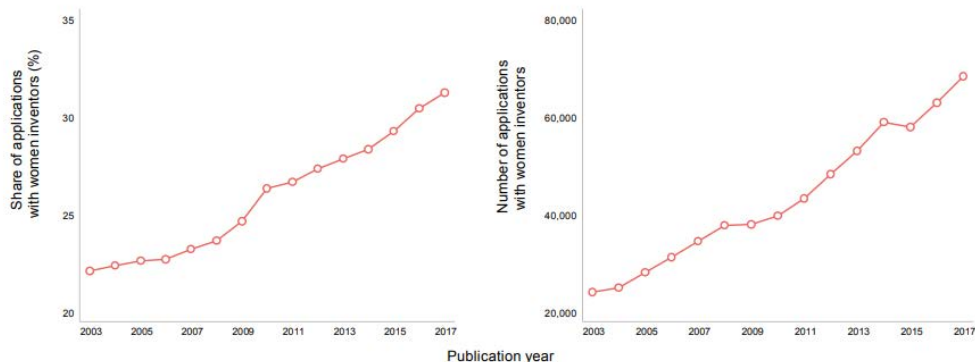


Fig. 4. Share and number of applications with women inventors, 2003-2017.

Source: World Intellectual Property Organization (WIPO), PCT Yearly Review 2018: The International Patent System. Geneva: WIPO, p. 37.

https://www.wipo.int/edocs/pubdocs/en/wipo_pub_901_2018.pdf

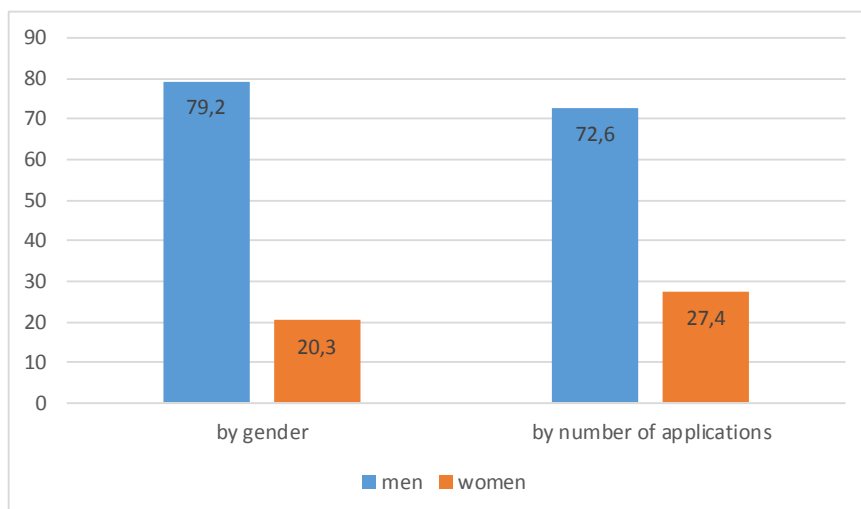


Fig. 5. Polish inventors of inventions and trademarks (in%, 2011-2015).

Source: Polish Patent Office https://uprp.pl/uprp/_gAllery/82/55/82557/Infografika_-_kobiety.jpeg [access: 28.08.2018]

Although Japan had the third highest number of women inventors listed in Patent Cooperation Treaty (PCT) applications, it gives a ratio of one woman per every 10 men listed.

According to the European Union Intellectual Property Office (EUIPO) and the Polish Patent Office, in Poland women inventors are stronger represented, giving an approx. ratio of one woman per every 4 men listed (EUIPO, Polish Patent Office, 2018).

The figure shows national patent applications for inventions and trademarks including women as the first or co-applicant listed on the application form in 2011–2015.

Integrated practical e-training & e-guiding for innovative women for facilitating their patent applications (*ip4women*) – a European case study. Although there are IP and patent portals of EPO and WIPO, they are more targeting patent attorneys and/or patent consultants. Besides these facts, there is no such platform targeting women inventors. For improvement this situation, there are some movements recently launched, especially in Sweden and Nordic countries, but still lack of the practical support, guiding, training and encouragement dedicated to women themselves.

Increasing the chances of women applying for patent applications by providing e-learning training and e-mentoring on a dedicated online platform for the submission of patent applications has been offered in the international dimension thanks to the European Union programme Erasmus+, within the project *ip4women*. The project is carried out in 2017-2019 by international partners from 4 countries: Uppdragshuset Sverige AB – leader, MINERVA (Sweden), POINT, TAKIDD (Tukey), Institute for Sustainable Technologies – National Research Institute, Foundation for Women Entrepreneurship (Poland), MOJMIR, ZARIF (Slovakia). For the realisation of the main objective of *ip4women* project, the analysis of the training needs of the target group in the provision of training services and e-mentoring in the submission of patent applications was carried out. The summary report on the relevant studies consists of two parts: Part 1 contains data on the identification of the training needs of women interested in submitting in the future of patent applications or obtaining practical information on the patent applications procedure. Part 2 deals with the results of the analysis of the training needs of women interested in providing e-mentoring services in the field of patent applications.

The results of the analysis were used to develop the methodology/guidelines for the preparation of training materials with the possibility of putting them into an e-learning version. The methodology/guidelines include the implementation scheme of the modular unit. The scheme includes 4 modules corresponding to the identified training needs. Guidelines for the development of training materials take into account the possibility of transferring the material into the e-learning version and placing it on the *ip4women* platform in a very user-friendly format.

A draft version of the training program corresponding to the previously identified areas of training needs has been developed in English and a pilot was carried out in

mid of 2018. During the pilot, suggestions for changes were made regarding the unification of the structure, graphics and technical functionalities that will be offered by the training program in the final version in 2019, corresponding to the users specific needs.

As *ip4women* project is concentrated on “women development” and improvement the gender balance in patent applicant inventors, establishing a very user friendly and practical to use portal, which serves the needs of women having this potential to be a patent applicant but lack of time and background brief information and/or knowledge is one of the project priority.

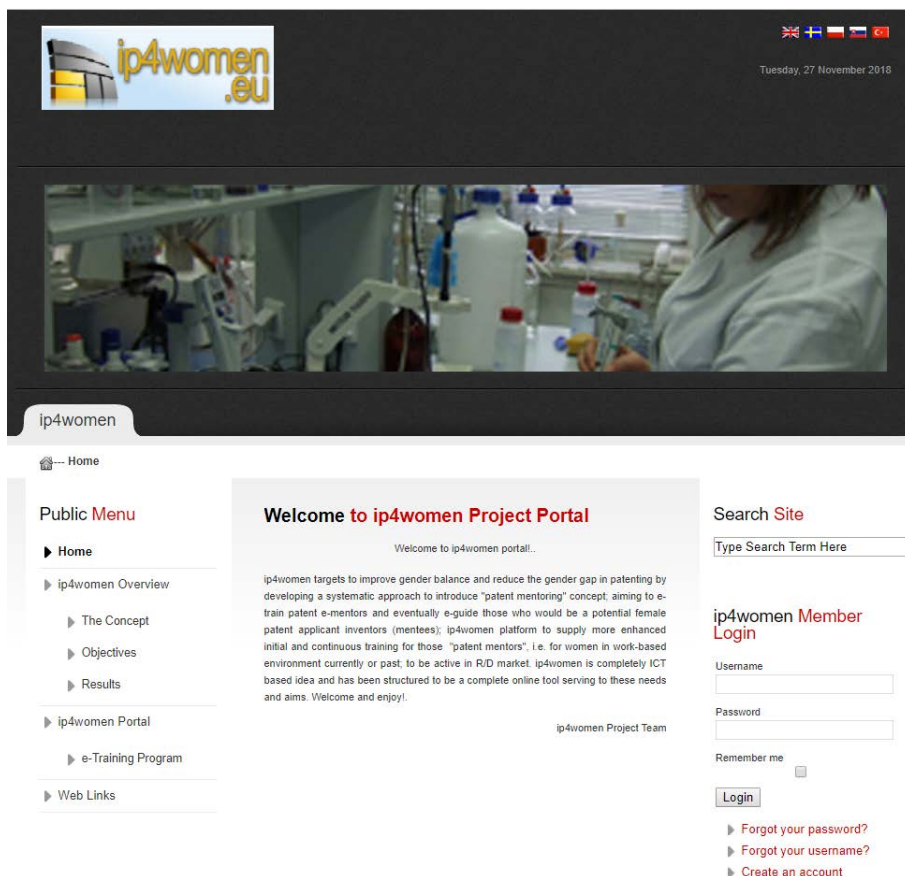


Fig. 6. Internet portal *ip4women*

Source: <http://ip4women.eu> [access: 28.06.2018]

A preliminary version of the internet *ip4women* platform in English (Fig. 5) has been already launched to support the implementation of learning processes and e-mentoring and is currently developed to be ready in the final version in 2019.

The platform is available in English and will be expanded with the language versions of the consortium partners (Polish, Turkish, Slovak, Swedish).

Conclusion. An adequate e-learning training tailored to the needs and enabling the provision of e-mentoring services through a specially designed online platform stimulates professional activation of women on the labour market. Experienced women who are interested in becoming a patent e-mentor can offer their assistance in filing patent applications through a professional *ip4women* platform for other women who are female inventors seeking to receive a “handy” knowledge and/or information together with mentoring support and may have concerns about applying to the patent office.

The presented *ip4women* project brings an innovative concept, as there is no comparable initiative, neither “patent mentoring” nor a user friendly dynamic portal which is dedicated to supplying practical training on IP and patent matters, bringing mentors and mentees together.

Literature

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