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ICT USAGE IMPLEMENTATION IN STARTUP PROJECTS TRANSLATION

The importance of ICT usage implementation in the startup project is analyzed. It has been proved that translation is of great importance for any startup project for establishing relationships with potential clients around the world. The role of the translator in the startup project is investigated. Translation has been proven to be important for any startup project to build relationships with potential clients around the world. A comprehensive analysis of the translation of startup projects from Ukrainian into English using the latest information and communication technologies in this process. Peculiarities of using modern ICT in translating the description of startup projects from Ukrainian into English are revealed. Exploring the use of information and computer technology in the translation process. It is determined that it is important for a translator of a startup project to understand all the features of using the software, choose the appropriate programs or online tools and develop a strategy for the translation process in the project. The results of this work are very important and necessary for further study of the features of the use of ICT in the translation of startup projects.
Key words: ICT, Information and Communications Technology, translation, startup projects

Introduction. The importance of developing the state in an innovative direction has been discussed in Ukraine at all levels. And there is not only a discussion – the necessary laws are adopted, programs are approved, technology transfer centers and business incubators are developed, trainings, forums and competitions of innovative ideas are constantly held.

The point is, a startup is not a new business, as some people think. A startup is a creative work with a new idea, it is a search for a business model for an innovative idea that did not exist before, and which will be able to bring real income in the future. A startup environment is a creative environment in which inventors learn, communicate and work on their projects.

A good team is also very important for a startup. And the question here is not only and not so much in financial resources, as in planning a strategy, in correct management for entering various markets.

The startup path is different from the standard business path. It aims at localization professionals, marketers, managers and educators. According to Bert Esserlink, author of one of the first localization manuals, the project translation includes such types of work as project management; translation of web content; translation and computer typesetting of documentation; translation and arrangement of multimedia elements; checking the functionality of localized software or web applications [1–8]. Examining the work of online business strategy, it can be concluded that the translator is actively involved in the following stages of project preparation: translation of business strategies, documentation and certificates, website localization, its testing, technical support and project promotion on the market [9–18].

Identification of previously unsettled parts of the general problem.

Expansion of international cooperation makes the problem of business proposals and contracts, prompt translation of correspondence, etc. especially applicable. The creation and development of automatic machine translation systems, which could become an essential tool in the work of specialists of various profiles can be one of the best solutions to this problem [19–27].

The possibility of automating such seemingly routine mental work as translation has been attracting attention for a long time. Machine translation has undergone significant changes over the past few years. A large amount of research is conducted in the field of statistical machine translation and machine translation based on examples [28–36].

The professional translators' requirements for the machine translation quality are much higher than those of non-professionals. These figures indicate that some translators are really interested in using automatic translation tools to increase labor productivity and reduce time costs. At the present time, new programs are constantly appearing, the already known ones are being updated or radically revised. The main components of modern information technology in the translation business should primarily include: information and reference; accumulation, archiving, search and restoration tools of fragmented translations; formatting and conversion means of text data; translation texts localization means; tools for translation quality control.

The main purposes of this paper are:
- To make the analysis of implementation ICT usage translation in Startup projects;
- To define the role of a translator for a Start up project;
- To identify main aspects of ICT startup projects translation;
- To determine the ICT usage implementation in startup project translation process.

The main part.

Translation competence includes linguistic, communicative, text-forming, technical competence, as well as the personal characteristics of the translator. A translator in a startup project team needs not only to be well oriented and understand the thematic vocabulary, but he is also required to apply other important work skills in practice [9–18, 32–35].

During the translation work with the startup projects catalog, it was taken a decision to develop a translation strategy. It consisted of specific steps in the work:

1) carefully read the texts of the startup projects one by one [1–9];

2) highlight the main directions for our translation: Energetics, IT, Materials and Technologies [1–18];

3) acquaintance with projects, their main innovative ideas [18–35];

4) highlight special vocabulary, terminology, complex grammatical structures [32–35];

5) analysis of existing ICT for translation;

6) choosing the most suitable tool for the best result;

7) translation of the startup projects catalog using ICT (online dictionaries, online translators, other necessary software) [8, 16, 19, 24–29, 36];

8) creation of presentations of some projects for the final defense of the project.

When translating the catalog of final Challenge start-up projects, it was reviewed 98 projects from 7 directions: ecology, IT, energetics, agriculture, medicine, materials and technologies, another direction.

A startup is always about new and innovative things. It is about the desire to solve a certain problem of society or to simplify some aspect of life. The text of the project, presentation and all types of documentation will always contain industry terminology. In some cases, the terms will be created by the startup team members themselves.

It is very important to consider the lexical features of the translation of Ukrainian projects into English. The creation of the English version of the project catalog enables foreign investors to get acquainted with promising and innovative ideas. Translation causes great difficulties - these are concepts related to life, everyday life and are absent in the language systems of other peoples, for example: вишиванка, коломийка, вечорниці. As a rule, translators face two main difficulties in conveying that: the absence of an equivalent in the language of translation due to the lack of native speakers of this language is indicated by the reality of the referent and the need, along with the substantive meaning (semantics) of reality, to convey its color and connotation.

Often, they are conveyed through transcription, transliteration and tracing, or through description. In our investigation it was decided not to use trasliteration, but to pass the value through description, generalization or concretization. This method is used to convey everyday realities, the meaning of which is not clear to the reader and requires explanation. The most important thing in this work is that the text is clear and readable for everyone: judges, investors, partners and members of other teams of the final competition.

Some examples of our realities translation from projects of different directions:

- "Обсяг ринку термомодернізації в Україні: ОВББ…" – "The volume of the thermal modernization market in Ukraine: Apartment Buildings Citizens Association…"
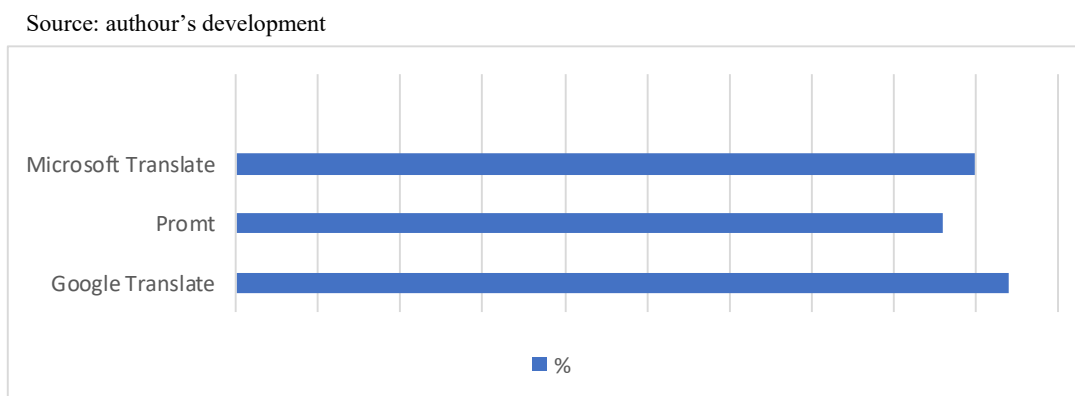
- "На цій онлайн-платформі можна буде розміщувати інформацію відносно заходів, які відбуваються в області." – "This online platform will be able to post information about events taking place in the region."

It was noticed that abbreviations are often found in project texts. The translator needs to know how to interpret each abbreviation, that is, what realia is hidden behind it. In addition, the translator must have a good idea of whether there is a ready-made correspondence to both the abbreviation itself and the realia behind it in the language into which the translation is carried out [3].

So, transliteration, as well as transcription, is most often used in cases when it comes to proper names, names of state institutions, positions specific to a given country, that is, about the sphere of social and political life, about the names of objects and concepts of material life, about the forms of addressing the interlocutor, abbreviations, etc. The word of the source language is transferred into the text of the translating language as it is, preserving partly or completely the form as a borrowed, transcribed or transliterated word. The disadvantage of transcription/transliteration as a translation technique is that the mechanical transmission of a non-equivalent word is not able to fully reveal the content of a new concept, which may either remain completely incomprehensible to many recipients of the text, or will be only approximately clear from the context [4–7].

Table 1

The sentence from the original text (in Ukrainian)	Пропонується новий ресурсозберігаючий підхід для створення та підтримки мікроклімату в теплицях за допомогою комплексу саморегульованих пристроїв, здатних забезпечувати обігрів, полив та провітрювання без використання енергоносіїв.
Google Translator	A new resource-saving approach is proposed to create and maintain a microclimate in greenhouses with a set of self-regulating devices capable of providing heating, watering and ventilation without the use of energy.
Promt	A new resource-saving approach is proposed to create and maintain a microclimate in greenhouses using a set of self-regulating devices capable of providing heating, watering and ventilation without using energy sources.
Microsoft Translate	A new resource-saving approach is proposed to create and maintain the microclimate in greenhouses using a complex of self-regulated devices capable of providing heating, watering and airing without the use of energy carriers.
Our final translation version	A new resource-saving approach for microclimate development and maintaining in greenhouse is presented. The implemented tools are self-regulating devices set, that is able to provide heating, watering and ventilation without the energy carriers.

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Source: authour's development

Source: authour's development

Figure 1.

In addition to analyzing the terminology translation in start-up projects, the main task was a practical investigation how modern technologies in translation are able to adequately help a translator when translating start-up projects. To do this, it was assessed the quality and compared the translation results of the three most popular online translators: Google translator, PROMT translator and Microsoft Translator.

The interfaces of these translators are simple and similar: have two fields in front, into one of which text is inserted, and the other displays the result of the translation, which can be edited directly in it. The target languages are selected in the drop-down lists [9].

The above-mentioned services during startup projects catalog translation was used. It has identified 14 projects in Energetics. We present several examples and an analysis of the use of ICT in our work. In order to assess the adequacy and equivalence, was used Makoto Nagao's method, by which computer translation is assigned a score from 1 point (the meaning of the sentence is clear and no questions arise, grammar, word usage and style correspond to the general structure of the text and do not require re-editing) to 5 points (the sentence has a large number of grammatical and stylistic errors, the meaning of the sentence can be understood only after careful reading and analysis) [10, 11].

Example 1 is presented on the Table 1. There were indicated the features of the this sentence translation. With regard to the analysis of the use of ICT in translation, it is necessary to highlight a couple of points. All translation services indicated the translation of the word "створення" as "create". The most appropriate translation in this context is "development". Despite the terms and complex structure of the content, all 3 services showed a satisfactory result. The sentence was not divided into 2 parts, as we decided to do. In our opinion, Promt-translator performed the best in this case.

The main features that need to be considered when translating is outlined. One of them was the translation of abbreviations. Below, in the comparison table, online translators work with the abbreviations translation is illustrated. It is important to note that we did not insert abbreviations separately into the online-translators. We inserted the entire sentence where the context and meaning were clear. It may be clearly seen that Google has done 100% success (Table 2). The results of other translators must either be corrected or completely changed:

Table 2

Original	Equivalent	Google Translator	Promt	Microsoft Translate
ННЦ	NSC	NSC	NNTS	Nsc
АПК	agro-industrial complex	agro-industrial complex	agrarian and industrial complex	Agro-industrial complex
АФІ	API	API	AFI	AFI

Source: authour's development

After analyzing and comparing 3 popular online-translators with 30 start-up projects descriptions, we are able to determine which service produces the most adequate translation. We use a scale by Makoto Nagao. Scientist developed it for machine translation evaluation based on linguistic and stylistic analysis [13]. The scale includes the points from five to one point:

1 point – the sentence is clear and no questions regarding the meaning arise, grammar, vocabulary and style correspond to the general text structure and do not require post-editing;

2 points – clear sentence meaning, but grammar structure requires editing;

3 points – clear general meaning, but grammatical structure and vocabulary are incorrect in some parts;

4 points – there are stylistic and vocabulary usage mistakes, the context is not always clear;

5 points – there are lots of grammar, vocabulary and stylistic errors, the sentence may not be understood even after being read several times.

We got the following results:
- Google Translate – 2 points;
- Promt – 4 points
- Microsoft Translate – 3 points.

If we take into account only the lexical structure in the text, then below we submit the adequate translation percentage of terms, abbreviations, semantic

constructions, and other special lexemes by online translators (Figure 1):
- Google translate provides an adequate translation in 97%;
- Promt – 93%;
- Microsoft translate – 95%.

It is important to note that all three online services clearly convey the grammatical structure of the sentence. This makes post-editing easier for the human translator. As a result, we have chosen Google Translate as the main ICT during translating the Sikorsky Challenge startup projects catalog.

Nevertheless, the post-editing was a time-consuming process for us. However, it resulted in English text that is readable and sounds natural as if it was already written in the target language. The post-editing process included:
- terminology consistency check;
- syntactic changes following with the target language rules;
- work with the text stylistics;
- translation and adaptation of cultural phenomena (phraseological units, idioms, abbreviations, etc.);
- full compliance with the original text achieve;
- formatting execution by the original text;
- all grammatical, punctuation and spelling errors correction.

We can draw our own conclusions about the use of ICT in the translation of startup projects. We highlight the following disadvantages of computer translation that require human correction:
- lack of meaning in individual sentences;
- wrong translation choice of some ambiguous words;
- incorrect word order;
- disagreement between the sentence parts.

At the same time, we note the advantages of machine translation:
- it is time-saving;
- correct translation of individual parts of the text;
- general text meaning conveying.

Thus, the analysis performed allows us to conclude that the greatest problems in machine translation are associated with semantics, since the semantic constructions translation requires databases that are not currently developed in all online translation tools. In addition, translations of complex grammatical, syntactic and lexical structures cause considerable difficulties as well [14–17].

The process of startup projects translation is complicated. Economy and culture interaction requires interlingual and intercultural services. To perform this function, it is important to have certain knowledge and skills, as well as the necessary translation competence.

Linguistic competence is a set of linguistic means used by members of a linguistic community. Linguistic competence involves connections knowledge that exist between the forms and meanings of different signs.

Communicative competence is the translator's ability to interfere, to form correct conclusions from speech statements about their full content or "meaning" based on background knowledge.

Text-forming competence involves: the ability to create texts of various types in accordance with the communicative task and the communication situation; ensure the proper structure of the text; use the text language units according to the rules for constructing speech units in the language; assess the place and ratio of individual parts of the text and perceive the text as a coherent speech whole.

Technical competence includes specific knowledge, skills and abilities required to perform a given type of activity.

Personal characteristics necessary for a translator: mental organization, ability to concentrate, ability to quickly switch attention, high erudition, concentration, efficiency, modesty, tact and moral ethics.

Translation competence is a complex and multidimensional category that includes all those qualification characteristics that allow a translator to carry out an act of interlingual communication:
- the ability to "translate" the interpretation of the source text;
- translation technology skills;
- target language norms knowledge;
- translation norms knowledge that determine the translation strategy choice;
- knowledge of the norms of a given style and genre of text.
- the ability to use MT and TM systems, reference sites, electronic dictionaries, knowledge of new communication tools (instant messaging programs);
- readiness to adapt to new conditions, constant improvement of skills and abilities.

A translator in a startup project team needs not only to be well oriented and understand the thematic vocabulary. In our opinion, the translator is also required to apply other important work skills in practice:
- knowledge of international standards for the design and translation of documentation for start-up projects to achieve the best result in localization;
- the right tone choice of information transfer in order to successfully convey the energy of the startup project team and their idea.

The professional image of the project in the international arena depends on the work of the translator.

If a translator fails, the following consequences may arise for a startup project:
- misunderstandings on the foreign partners and investors part, which may hinder the transaction in the future;
- the wrong impression about the team representatives, which affects the repulsive image;
- poor translation quality (the translated phrases in the text do not sound familiar to the target language) may indicate that the project is not ready for launch.

The translation industry around the world has grown several times over the past decade. The nature of the translator's work and the requirements for him have

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changed. First of all, the changes concerned the written translation of scientific and technical documentation.

During startup projects translation, in our opinion, the main difficulties include:

- translation of complex terminological groups;
- logical connections explication hidden behind the ornate syntactic sentence structure;
- verbosity or tautology elimination present in the original text;
- mental editing of grammatical errors during the oral translation that can make it difficult to understand the original text.

Does a startup need a translator? An average knowledge of English may be enough to communicate with international partners, but this will not be enough, for example, to bring the project to world markets.

Every month there are a lot of startups competitions in the world, which will help the project not only to get a cash prize, but also to find mentors, to get into a business incubator. However, most standing competitions require to fill out an application in English. In this case, the startup team must not only provide general information about the project, but also tell about the financial part, business models, market prospects and the team.

Filling out an application in English is only a small part of the iceberg, but you need to approach it responsibly. It is important not just to tell about the project, the main goal is to interest the right people, and this is often a difficult task even in the native language. Even if the startup team members are confident in their English knowledge, it will be useful to entrust professionals with at least editing.

In case the team has prepared its pitch and there is no doubt that in Ukrainian they can convince anyone to invest the right amount in the project. However, does it sound convincing in English as well? It is not enough to have an idea that will shoot. It is important to be able to convey it in a form that may be of interest to potential investors and mentors. Only a native speaker, who, in addition to his native English, is fluent in Ukrainian, will be able to make the pitch emotional and interesting.

The success of a startup is ensured if it solves global problems and can be scaled not within the country, but around the world. In order to find out about the project, the team needs to translate presentations, promotional materials and the site into English.

It is also important to entrust localization to professionals, because poor translation is not only a waste of money and damage to the project image, but also a waste of time, which among startups has a great value.

Teams of startups that develop innovative products sooner or later face the need to patent the technology for protection. The purpose of patenting is to secure exclusive rights to manufacture and sell products containing inventions in a certain geographical area.

Different patent offices have different requirements for the language in which an application should be filed. Today, a very popular system of patenting inventions, provided by the Patent Cooperation Treaty (PCT), in which the application can be filed in one of the established 8 languages, including English. However, some of the procedures in the application process will require the submission of documentation in Russian or French.

The European Patent Office shall apply only in English, French or German. When translating such documentation, accuracy in the description of the invention is important, as any distortion of information here can have serious consequences.

A full-fledged translation can only be performed by a qualified specialist in the field of science or technology with translation competence, with which the source text is thematically related. This means that, orienting himself in his narrow professional sphere and owning the terminology, such a specialist need to:

- have knowledge of grammar and vocabulary of two languages;
- know sufficiently the culture of both peoples;
- take into account the extralinguistic aspects of the translated text;
- solve complex problems of transferring not only information, but also imagery, understatement, many different linguistic signs shades of the original, which makes it possible to consider translation competence as a complex concept.

A competent translator, unlike a machine-translator, is guided by a large number of criteria when choosing a foreign language equivalent. These include not only the meaning of each word and the meaning of the grammatical constructions used, but also the concept of the value, novelty of the information offered, the possibility of compressing information, using standard formulas, clichés. A professional translator can, depending on the audience of listeners or readers to whom the translation is intended, make corrections, clarifications, substitutions in the translation text, and also maintains a style of presentation defined for a particular genre, builds equivalents of terms that are not in dictionaries[19].

After the first acquaintance with the startup projects catalog, it was decided to develop a translation strategy. It consisted of specific steps in our work:

Step 1. We carefully read the texts of the startup projects one by one. Highlighted the main directions for our translation: Energetics, IT, Materials and Technologies.

Step 2. Detailed acquaintance with projects, their main innovative ideas.

Step 3. Highlighting special vocabulary, terminology, complex grammatical structures. Translation of several projects without the ICT use.

Step 4. Analysis of existing ICT for translation. Choosing the most suitable tool for the best result.

Step 5. Translation of the startup projects catalog using ICT (online dictionaries, online translators, other necessary software). Creation of presentations of some projects for the final defense of the project [20].

Conclusions and ideas for further investigation. Expansion of international cooperation makes the

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problem of business proposals and contracts, prompt translation of correspondence, etc. especially applicable. The creation and development of automatic machine translation systems, which could become an essential tool in the work of specialists of various profiles can be one of the best solutions to this problem.

During the translation work with the startup projects catalog, we developed a translation strategy with ICT usage.

Translation competence includes linguistic, communicative, text-forming, technical competence, as well as the personal characteristics of the translator. A translator in a startup project team needs not only to be well oriented and understand the thematic vocabulary, but he is also required to apply other important work skills in practice.

We can draw our own conclusions about the ICT usage in the translation of startup projects. It is highlighted the following disadvantages of computer translation that require human correction:

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At the same time, we note the advantages of machine translation:

- it is time-saving;
- correct translation of individual parts of the text;
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The main components of modern information technology in the translation business should primarily include: information and reference; accumulation, archiving, search and restoration tools of fragmented

translations; formatting and conversion means of text data; translation texts localization means; tools for translation quality control.

The online-translators analysis showed that at the moment the Google system provides the most adequate and equivalent version of the translation, but nevertheless there are still problems with the translation of rare words and terms among them, as well as the mismatch between the number of words of the original and translation affects the meaning. Thus, it can be concluded that computer translation systems make a significant number of errors.

On this basis, we conclude that computer translation systems are developing very rapidly and their further development is associated with the continuation of careful consideration of the context and topics. That is why today the study of texts translation performed using computer translation systems is one of the most promising areas of linguistic research. It allows to develop algorithms for translator work at the stage of post-editing scientific and technical text, received after MT.

Further development of automatic translation is associated with the possibility of a holistic assessment of texts made with the help of computer translation systems. It is an adequate and complete assessment that will help to identify and systematize all the shortcomings of the program so that in the future these problems are resolved.

All the set tasks were solved. Further research can be aimed at specific features of startup projects, or the specific ICTs usage in the start-up projects translation, or the translation study of a specific startup project in a specific direction.

Список літератури

1. Бухкало С.І. Деякі концепції сталого розвитку України Інформаційні технології: наука, техніка, технологія, освіта, здоров'я: тези доповідей XXVIII міжнародної науково-практичної конференції MicroCAD-2020, 28-30 жовтня 2020 р.: Ч. II./за ред. проф. Сокола Є.І. – Харків: НТУ «ХПІ», с. 172.
2. Бухкало С.І. Основні властивості плівкового полімерного покриття геліоколекторів. Інформаційні технології: наука, техніка, технологія, освіта, здоров'я: тези доповідей XXVIII міжнародної науково-практичної конференції MicroCAD-2020, 28-30 жовтня 2020 р.: Ч. II./за ред. проф. Сокола Є.І. – Харків: НТУ «ХПІ», с. 173.
3. Говоров П.П., Бухкало С.І., Кіндінова А.К., Говорова К.В. Загальні закономірності системи бактерицидних установок знезараження води. Інформаційні технології: наука, техніка, технологія, освіта, здоров'я: тези доповідей XXVIII міжнародної науково-практичної конференції MicroCAD-2020, 28-30 жовтня 2020 р.: Ч. II./за ред. проф. Сокола Є.І. – Харків: НТУ «ХПІ», с. 181.
4. Мальцева А.О., Бухкало С.І., Іглін С.П., та ін. Загальні умови процесів кристалізації цукру. Інформаційні технології: наука, техніка, технологія, освіта, здоров'я: тези доповідей XXVIII міжнародної науково-практичної конференції MicroCAD-2020, 28-30 жовтня

2020 р.: Ч. II./за ред. проф. Сокола Є.І. – Харків: НТУ «ХПІ», с. 233.
5. Ольховська В.О., Кравченко О.С., Бухкало С.І. Складові алгоритму пошуку раціональних закономірностей роботи обладнання. Інформаційні технології: наука, техніка, технологія, освіта, здоров'я: тези доповідей XXVIII міжнародної науково-практичної конференції MicroCAD-2020, 28-30 жовтня 2020 р.: Ч. II./за ред. проф. Сокола Є.І. – Харків: НТУ «ХПІ», с. 249.
6. Агейчева А.О., Агейчева О.О. Можливі причини зниження фільтраційних характеристик привибійної зони пласта. Інформаційні технології: наука, техніка, технологія, освіта, здоров'я: тези доповідей XXVIII міжнародної науково-практичної конференції MicroCAD-2020, 28-30 жовтня 2020 р.: Ч. II./за ред. проф. Сокола Є.І. – Харків: НТУ «ХПІ», с. 150.
7. Kapustenko P., Klemeš J.J., Arsenyeva O., Fedorenko O., Kusakov S., Bukhkalo S. The Utilisation of Waste Heat from Exhaust Gases after Drying Process in Plate Heat Exchanger. Chemical Engineering Transactions, 81, 589-594. DOI:10.3303/CET2081099
8. Бухкало С.І., Агейчева А.О., Агейчева О.О., Бабаш Л.В., Пшичкіна Н.Г. Методичні аспекти реформування дистанційного навчання в системі вищої освіти. Вісник НТУ «ХПІ». – Х.: НТУ «ХПІ», 2020. – № 5(1359). – С. 3–10. DOI: 10.20998/2220-4784.2020.05.01

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9. DePalma D. Business without Borders. A Strategic Guide to Global Marketing / A. Donald DePalma. New York : John Wiley & Sons, Inc., 2002. 267 p.

10. Esselink B. A Practical Guide to Localization / Bert Esselink. Amsterdam/Philadelphia: John Benjamins Publishing Company, 2000. 488 p.

11. Esselink B. A Practical Guide to Software Localization / Bert Esselink. Amsterdam/Philadelphia: John Benjamins Publishing Company, 1998. 309 p.

12. Hutchins J. у H. Somers: An Introduction to Machine Translation. London : Academic Press, 1992.

13. Lagoudaki E. The Value of Machine Translation for the Pro-fessional Translator. AMTA-2008. MT at work: Proceedings of the Eighth Conference of the Association for Machine Translation in the Americas, Waikiki, Hawaii, 21–25 October, p. 262–269.

14. Martin Kay. The Proper Place of Men and Machines in Language Translation. Machine Translation 12: 3–23, 1997.

15. Proceedings of the Eighth Conference of the Association for Machine Translation in the Americas, Waikiki.

16. S. Bukhkalo. The system and models of complex treatment of industrial effluents. Інформаційні технології: наука, техніка, технологія, освіта, здоров'я: тези доповідей XXVIII міжнародної науково-практичної конференції MicroCAD-2020, 28-30 жовтня 2020 р.: у 5 ч. Ч. II./за ред. проф. Сокола Є.І. – Харків: НТУ «ХПІ», с. 170.

17. Yunker J. Beyond Borders. Web Globalization Strategies / John Yunker. Boston ; Indianapolis; London; New York; San Francisco : New Riders, 2003. 552 p.

18. Zetzsche J. Machine Translation Revisited. Translation Journal. Volume 11, No. 1, January, 2007.

19. Бухкало С.І., Іглін С.П., Ольховська О.І., Ольховська В.О. та ін. Приклад постановки задачі експерименту Інформаційні технології: наука, техніка, технологія, освіта, здоров'я: тези доповідей XXVIII міжнародної науково-практичної конференції MicroCAD-2020, 28-30 жовтня 2020 р.: у 5 ч. Ч. II./за ред. проф. Сокола Є.І. – Харків: НТУ «ХПІ», с. 171.

20. Говоров П.П., Бухкало С.І., Кіндінова А.К., Говорова К.В. Енергоефективна система знезараження води на основі світлодіодних джерел світла. Вісник НТУ «ХПІ». – Х.: НТУ «ХПІ», 2020. – № 5(1359). – С. 19–25.

21. Говоров П.П., Бухкало С.І., Кіндінова А.К. Технології світлотехніки на шляху розповсюдження COVID-19. XXIX Міжн. н-практ. конф. «Інформаційні технології: наука, техніка, технологія, освіта, здоров'я» (MicroCAD-2021) 18-20 травня 2021 р.: у 5 ч. Ч. II. / за ред. проф. Сокола Є.І. – Харків: НТУ «ХПІ». С. 125.

22. .Говоров П.П., Бухкало С.І., Кіндінова А.К. Системи світлотехніки на шляху розповсюдження COVID-19. XXIX Міжн. н-практ. конф. «Інформаційні технології: наука, техніка, технологія, освіта, здоров'я» (MicroCAD-2021) 18-20 травня 2021 р.: у 5 ч. Ч. II. / за ред. проф. Сокола Є.І. – Харків: НТУ «ХПІ». С. 127.

23. Бухкало С.І., Говоров П.П., Кіндінова А.К., Гришина І.М. Екологічна безпека світлотехніки на шляху COVID-19. XXIX Міжн. н-практ. конф. «Інформаційні технології: наука, техніка, технологія, освіта, здоров'я» (MicroCAD-2021) 18-20 травня 2021 р.: у 5 ч. Ч. II. / за ред. проф. Сокола Є.І. – Харків: НТУ «ХПІ». С. 116.

24. Говоров П.П., Бухкало С.І., Кіндінова А.К. Медико-біологічні аспекти на шляху розповсюдження COVID-19. Здоров'я нації і вдосконалення фізкультурно-спортивної освіти матеріали ІІ Міжн. н-практичної конференції, 22–23 квітня 2021 р./ред. колегія А.В. Кіпенський, О.В. Білоус [та ін.]. Харків: Друкарня Мадрид, 2021. – С. 102–106.: ISBN 978-617-7988-44-0

25. Бухкало С.І. Визначення загальної технології комплексних курсових проектів. Інформаційні технології: наука, техніка, технології, освіта, здоровья: тези доповідей XXVII Міжн. н-практ. конференції (MicroCAD-2019), 15–17 мая 2019 р.: у 4 ч. Ч. ІІ. / за ред. проф. Сокола Є.І. – Харків: НТУ «ХПІ». С. 217.

26. Бухкало С.І. Загальна технологія харчової промисловості у прикладах і задачах (інноваційні заходи) [текст] підручник. – К.: ЦНЛ, 2014. – 456 с.

27. Бухкало С.І. Особливості розробки об'єктів інтелектуальної власності зі студентами. XXV Межд. н-практ. конф. «Информационные технологии: наука, техника, технология, образование, здоровье» (MicroCAD-2018) 17-19 мая 2018. Х.: Ч. ІІ, с. 201.

28. Bukhkalo S.I., Ageicheva A.O., Iglin S.P., Hlavcheva Yu. N., Miroshnichenko N.N., Olkhovska O.I., Zipunnikov M.M., Olkhovska V.O. Innovative complex projects'2018/2019 realization in the examples and tasks/ Вісник НТУ «ХПІ». – Х.: НТУ «ХПІ», 2019. – № 15(1340). – С. 80–88. doi: 10.20998/2220-4784.2019.15.14

29. Бухкало С.І. Структура потоків комплексного підприємства XXV Межд. н-практ. конф. «Информационные технологии: наука, техника, технология, образование, здоровье» (MicroCAD-2017) 17-19 мая 2017. Х.: Ч. ІІІ, – с. 14.

30. Бухкало С.И., Сериков А.В., Ольховская О.И. и др. Об утилизации полимерных отходов как комплексе инновационных проектов / С.И. Бухкало, А. В. Сериков, О.И. Ольховская и др.// Вісник НТУ «ХПІ». – Х.: НТУ «ХПІ». 2012. – № 10. – с. 160–166.

31. Бухкало С.И., Гардер С.Е., Ольховская О.И. и др. Регулирование эффективности ресурсо- и энергосбережения на комплексных предприятиях по переработке отходов // Вісник НТУ «ХПІ». – Х.: НТУ «ХПІ». 2012. – № 10. – с. 72–80.

32. Zipunnikov, Mykola; Bukhkalo, Svetlana; Kotenko, Anatolii. Researching The Process Of Hydrogen Generating From Water With The Use Of The Silicon Basis Alloys. French-Ukrainian Journal of Chemistry, [S.l.], v. 7, n. 2, p. 138-144, dec. 2019. doi:http://dx.doi.org/10.17721 /fujcV7I2P138-144. http://kyivtoulouse.univ.kiev.ua /journal/ index.php/fruajc/article/view/258).

33. Bilous, O., Sytnik, N., Bukhkalo, S., Glukhykh, V., Sabadosh, G., Natarov, V., Yarmysh, N., Zakharkiv, S., Kravchenko, T., & Mazaeva, V. (2019). Development of a food antioxidant complex of plant origin. Eastern-European Journal Of Enterprise Technologies, 6(11 (102)), 66-73. doi:http://dx.doi.org/10.15587/1729-4061.2019.186442. http://journals.uran.ua/eejet/article/view/186442).

34. Bukhkalo, S. I., Klemeš, J. J., Tovazhnyanskyy, L. L., Arsenyeva, O. P., Kapustenko, P. O., & Perevertaylenko, O. Y. (2018). Eco-friendly synergetic processes of municipal solid waste polymer utilization. Chemical Engineering Transactions, 70, 2047–2052. doi:10.3303/CET1870342.

35. Bilous, O., Demidov, I., & Bukhkalo, S. (2015). Developing the complex antioxidant from walnut leafs and calendula extracts. Eastern-European Journal of Enterprise Technologies, 1(6), 22–26. doi:10.15587/1729-4061.2015.35995.

36. Бухкало С.І. Загальна технологія харчової промисловості у прикладах і задачах (приклади та тести з технології крохмалю) [текст] підручник з грифом МОН. Київ «Центр учбової літератури»: 2019, 108 с.

References (transliterated)

1. Bukhkalo S.I. Dejaki koncepcii stalogo rozvitku Ukraïni Informacijni tehnologii: nauka, tehnika, tehnologija, osvita,

Вісник Національного Технічного Університету «ХПІ». Серія: Інноваційні дослідження у наукових роботах студентів, 2021, № 1 (1361)

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zdorov'ja: tezi dopovidej XXVIII mizhnarodnoï naukovo-praktichnoï konferenciï MicroCAD-2020, 28-30 zhovtnja 2020.: Ch. II./za red. prof. Sokola Є.I. – Kharkiv: NTU «KhPI», p. 172.

2. Bukhkalo S.I. Osnovni vlastivosti plivkovogo polimernogo pokrittja geliokolektoriv. Informacijni tehnologiï: nauka, tehnika, tehnologija, osvita, zdorov'ja: tezi dopovidej XXVIII mizhnarodnoï naukovo-praktichnoï konferenciï MicroCAD-2020, 28-30 zhovtnja 2020.: Ch. II./za red. prof. Sokola Є.I. – Kharkiv: NTU «KhPI», p. 173.

3. Govorov P.P., Bukhkalo S.I., Kindinova A.K., Govorova K.V. Zagal'ni zakonomirnosti sistemi baktericidnih ustanovok znezarazhennja vodi. Informacijni tehnologiï: nauka, tehnika, tehnologija, osvita, zdorov'ja: tezi dopovidej XXVIII mizhnarodnoï naukovo-praktichnoï konferenciï MicroCAD-2020, 28-30 zhovtnja 2020 : Ch. II./za red. prof. Sokola Є.I. Kharkiv: NTU «KhPI», p. 181.

4. Mal'ceva A.O., Bukhkalo S.I., Iglin S.P., ta in. Zagal'ni umovi procesiv kristalizaciï cukru. Informacijni tehnologiï: nauka, tehnika, tehnologija, osvita, zdorov'ja: tezi dopovidej XXVIII mizhnarodnoï naukovo-praktichnoï konferenciï MicroCAD-2020, 28-30 zhovtnja 2020: Ch. II./za red. prof. Sokola Є.I. Kharkiv: NTU «KpPI», p. 233.

5. Ol'hovs'ka V.O., Kravchenko O.S., Bukhkalo S.I. Skladovi algoritmu poshuku racional'nih zakonomirnostej roboti obladnannja. Informacijni tehnologiï: nauka, tehnika, tehnologija, osvita, zdorov'ja: tezi dopovidej XXVIII mizhnarodnoï naukovo-praktichnoï konferenciï MicroCAD-2020, 28-30 zhovtnja 2020 : Ch. II./za red. prof. Sokola Є.I. – Kharkiv: NTU «KhPI», p. 249.

6. Agejcheva A.O., Agejcheva O.O. Mozhlivi prichini znizhennja fil'tracijnih harakteristik privibijnoï zoni plasta. Informacijni tehnologiï: nauka, tehnika, tehnologija, osvita, zdorov'ja: tezi dopovidej XXVIII mizhnarodnoï naukovo-praktichnoï konferenciï MicroCAD-2020, 28-30 zhovtnja 2020: Ch. II./za red. prof. Sokola Є.I. – Kharkiv: NTU «KhPI», p. 150.

7. Kapustenko P., Klemeš J.J., Arsenyeva O., Fedorenko O., Kusakov S., Bukhkalo S. The Utilisation of Waste Heat from Exhaust Gases after Drying Process in Plate Heat Exchanger. Chemical Engineering Transactions, 81, 589–594. DOI:10.3303/CET2081099

8. Bukhkalo S.I., Agejcheva A.O., Agejcheva O.O., Babash L.V., Pshichkina N.G. Metodichni aspekti reformuvannja distancijnogo navchannja v sistemi vishhoï osviti. Visnik NTU «KhPI». – Kh.: NTU «KhPI», 2020. – № 5(1359). – pp. 3–10. DOI: 10.20998/2220-4784.2020.05.01

9. DePalma D. Business without Borders. A Strategic Guide to Global Marketing / A. Donald DePalma. New York : John Wiley & Sons, Inc., 2002. 267 p.

10. Esselink B. A Practical Guide to Localization / Bert Esselink. Amsterdam/Philadelphia: John Benjamins Publishing Company, 2000. 488 p.

11. Esselink B. A Practical Guide to Software Localization / Bert Esselink. Amsterdam/Philadelphia: John Benjamins Publishing Company, 1998. 309 p.

12. Hutchins J. y H. Somers: An Introduction to Machine Translation. London : Academic Press, 1992.

13. Lagoudaki E. The Value of Machine Translation for the Pro-fessional Translator. AMTA-2008. MT at work: Proceedings of the Eighth Conference of the Association for Machine Translation in the Americas, Waikiki, Hawaii, 21–25 October, p. 262–269.

14. Martin Kay. The Proper Place of Men and Machines in Language Translation. Machine Translation 12: 3–23, 1997.

15. Proceedings of the Eighth Conference of the Association for Machine Translation in the Americas, Waikiki.

16. S. Bukhkalo. The system and models of complex treatment of industrial effluents. Informacijni tehnologiï: nauka, tehnika, tehnologija, osvita, zdorov'ja: tezi dopovidej

XXVIII mizhnarodnoï naukovo-praktichnoï konferenciï MicroCAD-2020, 28-30 zhovtnja 2020.: Ch. II./za red. prof. Sokola Є.I. – Kharkiv: NTU «KhPI», p. 170.

17. Yunker J. Beyond Borders. Web Globalization Strategies / John Yunker. Boston ; Indianapolis; London; New York; San Francisco : New Riders, 2003. 552 p.

18. Zetzsche J. Machine Translation Revisited. Translation Journal. Volume 11, No. 1, January, 2007.

19. Bukhkalo S.I., Iglin S.P., Ol'hovs'ka O.I., Ol'hovs'ka V.O. ta in. Priklad postanovki zadachi eksperimentu Informacijni tehnologiï: nauka, tehnika, tehnologija, osvita, zdorov'ja: tezi dopovidej XXVIII mizhnarodnoï naukovo-praktichnoï konferenciï MicroCAD-2020, 28-30 zhovtnja 2020.: u 5 ch. Ch. II./za red. prof. Sokola Є.I. – Kharkiv: NTU «KhPI», p. 171.

20. Govorov P.P., Buhkalo S.I., Kindinova A.K., Govorova K.V. Energoefektivna sistema znezarazhennja vodi na osnovi svitlodiodnih dzherel svitla. Visnik NTU «KhPI». – Kh.: NTU «KhPI», 2020. – № 5(1359). – pp. 19–25.

21. Govorov P.P., Bukhkalo S.I., Kindinova A.K. Tehnologiï svitlotehniki na shljahu rozpovsjudzhennja COVID-19. XXIX Mizhn. n-prakt. konf. «Informacijni tehnologiï: nauka, tehnika, tehnologija, osvita, zdorovja» (MicroCAD-2021) 18-20 travnja 2021: u 5 ch. Ch. II. / za red. prof. Sokola Є.I. – Kharkiv: NTU «KhPI». p. 125.

22. Govorov P.P., Bukhkalo S.I., Kindinova A.K. Sistemi svitlotehniki na shljahu rozpovsjudzhennja COVID-19. XXIX Mizhn. n-prakt. konf. «Informacijni tehnologiï: nauka, tehnika, tehnologija, osvita, zdorov'ja» (MicroCAD-2021) 18-20 travnja 2021.: u 5 ch. Ch. II. / za red. prof. Sokola Є.I. – Kharkiv: NTU «KhPI», p. 127.

23. Bukhkalo S.I., Govorov P.P., Kindinova A.K., Grishina I.M. Ekologichna bezpeka svitlotehniki na shljahu COVID-19. XXIX Mizhn. n-prakt. konf. «Informacijni tehnologiï: nauka, tehnika, tehnologija, osvita, zdorov'ja» (MicroCAD-2021) 18-20 travnja 2021 : u 5 ch. Ch. II. / za red. prof. Sokola Є.I. – Kharkiv: NTU «KhPI», p. 116.

24. Govorov P.P., Bukhkalo S.I., Kindinova A.K. Mediko-biologichni aspekti na shljahu rozpovsjudzhennja COVID-19. Zdorov'ja naciï i vdoskonalennja fizkul'turno-sportivnoï osviti materiali II Mizhn. n-praktichnoï konferenciï, 22–23 kvitnja 2021 r./red. kolegija A. V. Kipens'kij, O. V. Bilous [ta in.]. – Kharkiv: Drukarnja Madrid, 2021. – pp. 102–106.: ISBN 978-617-7988-44-0

25. Bukhkalo S.I. Viznachennja zagal'noï tehnologiï kompleksnih kursovih proektiv. Informacijni tehnologiï: nauka, tehnika, tehnologiï, osvita, zdorov'ja: tezi dopovidej XXVII Mizhn. n-prakt. konferenciï (MicroCAD-2019), 15–17 maja 2019 : u 4 ch. Ch. II. / za red. prof. Sokola Є.I. – Kharkiv: NTU «KhPI», p. 217.

26. Bukhkalo S.I. Zagal'na tehnologija harchovoï promislovosti u prikladah i zadachah (innovacijni zahodi) [tekst] pidruchnik. – K.: CNL, 2014. – 456 p.

27. Bukhkalo S.I. Osoblivosti rozrobki ob'єktiv intelektual'noï vlasnosti zi studentami. XXV Mezhd. n-prakt. konf. «Informacionnye tehnologii: nauka, tehnika, tehnologija, obrazovanie, zdorov'e» (MicroCAD-2018) 17–19 maja 2018. Kh.: Ch. II, p. 201.

28. Bukhkalo S.I., Ageicheva A.O., Iglin S.P., Hlavcheva Yu., Miroshnichenko N.N., Olkhovska O.I., Zipunnikov M.M., Olkhovska V.O. Innovative complex projects'2018/2019 realization in the examples and tasks/ Visnik NTU «KhPI». Kh.: NTU «KhPI», 2019. № 15(1340), pp. 80–88. doi: 10.20998/2220-4784.2019.15.14

29. Bukhkalo S.I. Struktura potokiv kompleksnogo pidpriemstva XXV Mezhd. n-prakt. konf. «Informacionnye tehnologii: nauka, tehnika, tehnologija, obrazovanie, zdorov'e» (MicroCAD-2017): Ch. III, – p. 14..

30. Bukhkalo S.I., Serikov A.V., Ol'hovskaja O.I. i dr. Ob utilizacii polimernyh othodov kak kom¬plekse innovacionnyh proektov. Visnik NTU «KhPI». 2012. № 10, pp. 160–166.

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Вісник Національного Технічного Університету «ХПІ». Серія: Інноваційні дослідження у наукових роботах студентів, 2021, № 1 (1361)

31. Bukhkalo S.I., Garder S.E., Ol'hovskaja O.I. i dr. Regulirovanie jeffektivnosti resurso- i jenergosberezhenija na kompleksnyh predprijatijah po pererabotke othodov // Visnik NTU «KhPI». 2012. № 10, pp 72–80.

32. Zipunnikov Mykola; Bukhkalo Svetlana; Kotenko Anatolii. Researching The Process Of Hydrogen Generating From Water With The Use Of The Silicon Basis Alloys. French-Ukrainian Journal of Chemistry, [S.l.], v. 7, n. 2, p. 138-144, dec. 2019. doi:http://dx.doi.org/10.17721/ fujcV7I2, pp. 138-144. http://kyivtoulouse.univ.kiev.ua/journal /index. php /fruajc/article/view/258).

33. Bilous, O., Sytnik, N., Bukhkalo, S., Glukhykh, V., Sabadosh, G., Natarov, V., Yarmysh, N., Zakharkiv, S., Kravchenko, T., & Mazaeva, V. (2019). Development of a food antioxidant complex of plant origin. Eastern-European Journal Of Enterprise Technologies, 6(11 (102)), 66–73. doi:http://dx.doi.org/10.15587/1729-4061.2019.186442. http://journals.uran.ua/eejet/article/view/186442).

34. Bukhkalo S.I., Klemeš J.J., Tovazhnyanskyy L.L., Arsenyeva O.P., Kapustenko P.O., & Perevertaylenko O.Y. (2018). Eco-friendly synergetic processes of municipal solid waste polymer utilization. Chemical Engineering Transactions, 70, 2047–2052. doi:10.3303/CET1870342.

35. Bilous O., Demidov I., Bukhkalo S. (2015). Developing the complex antioxidant from walnut leafs and calendula extracts. Eastern-European Journal of Enterprise Technologies,1(6),22–26. doi:10.15587/1729-4061.2015.35995.

36. Bukhkalo S.I. Zagal'na tehnologija harchovoї promislovosti u prikladah i zadachah (prikladi ta testi z tehnologії krohmalju) [tekst] pidruchnik z grifom MON. Kiїv «Centr uchbovoї literaturi»: 2019, 108 p.

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ВПРОВАДЖЕННЯ ЗАСТОСУВАННЯ ІКТ В ПЕРЕКЛАДІ СТАРТАП-ПРОЄКТІВ

Проаналізовано важливість впровадження ІКТ у стартовому проекті. Доведено, що переклад має велике значення для будь-якого стартап-проекту для налагодження стосунків з потенційними клієнтами по всьому світу. Досліджена роль перекладача в стартап-проєкті. Доведено, що переклад є важливим для будь-якого стартап проекту для налагодження відносин з потенційними клієнтами по всьому світу. Виконано комплексний аналіз перекладу стартап проєктів з української мови на англійську із застосуванням новітніх інформаційно-комунікаційних технологій у цьому процесі. Виявлено особливості використання сучасних ІКТ при перекладі опису стартап проєктів з української мови на англійську. Дослідженню використання інформаційних та комп'ютерних технологій у процесі перекладу. Визначено, що перекладачу стартап проекту важливо розуміти всі особливості використання програмного забезпечення, вибрати належні програми чи онлайн-інструменти та розробити стратегію перекладацького процесу у проєкті. Результати даної роботи є дуже важливими та необхідними для подальшого дослідження особливостей використання ІКТ у перекладі стартап-проєктів.

Ключові слова: ІКТ, Інформаційно-комунікаційні технології, переклад, стартап-проєктів

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ВНЕДРЕНИЕ ИСПОЛЬЗОВАНИЯ ИКТ В ПЕРЕВОДЕ СТАРТАП-ПРОЕКТОВ

Проанализированы важность внедрения ИКТ в стартовом проекте. Доказано, что перевод имеет большое значение для любого стартап-проекта для налаживания отношений с потенциальными клиентами по всему миру. Исследована роль переводчика в стартап-проекты. Доказано, что перевод является важным для любого стартап проекта для налаживания отношений с потенциальными клиентами по всему миру. Выполнен комплексный анализ перевода стартап проектов с украинского языка на английский с применением новейших информационно-коммуникационных технологий в этом процессе. Выявлены особенности использования современных ИКТ при переводе описания стартап проектов с украинского языка на английский. Исследованию использования информационных и компьютерных технологий в процессе перевода. Определено, что переводчику стартап проекта важно понимать все особенности использования программного обеспечения, выбрать соответствующие программы или онлайн-инструменты и разработать стратегию переводческого процесса в проект. Результаты данной работы очень важны и необходимы для дальнейшего исследования особенностей использования ИКТ в переводе стартап-проектов

Ключевые слова: ИКТ, Информационно-коммуникационные технологии, перевод, стартап-проектов