

IEE Skills4SB.SI - Building Skills for Sustainable Building in Slovenia
IEE/11/BWI/519/SI2.604361
11/2011 – 5/2013

BUILD UP Skills Slovenija

sistemska podpora vseživljenjskemu
učenju izvajalcev skoraj nič energijskih hiš



D5.2 Endorsement activities (report on endorsement activities its current status and next steps)

WP 5

[May 2013]

Partner responsible for this deliverable:

Slovenski gradbeni grozd - SGG

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Obrtno podjetniška Zbornica Slovenije – OZS

Inženirska Zbornica Slovenije – IZS

Šolski center Novo mesto – SC NM

Center za poklicno izobraževanje - CPI

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1. Publication (printed, in Slovene):

BUILD UP Skills Slovenija

POTRDITEV SLOVENSKEGA NAČRTA ZA BOLJŠO USPOSOBLJENOST IZVAJALCEV SKORAJ NIČ ENERGIJSKIH GRADENJ IN PRENOV DO LETA 2020

Slovenija potrebuje boljšo usposobljenost izvajalcev skoraj nič energijskih stavb

1. Publication (electronic, in English):

BUILD UP Skills Slovenia

ENDORSEMENT OF THE SLOVENIAN ROADMAP FOR BETTER QUALIFICATION OF BUILDERS FOR CONSTRUCTION OF NZEB UNTIL 2020

Slovenia needs competent installers of nearly zero energy buildings



BUILD UP Skills Slovenija

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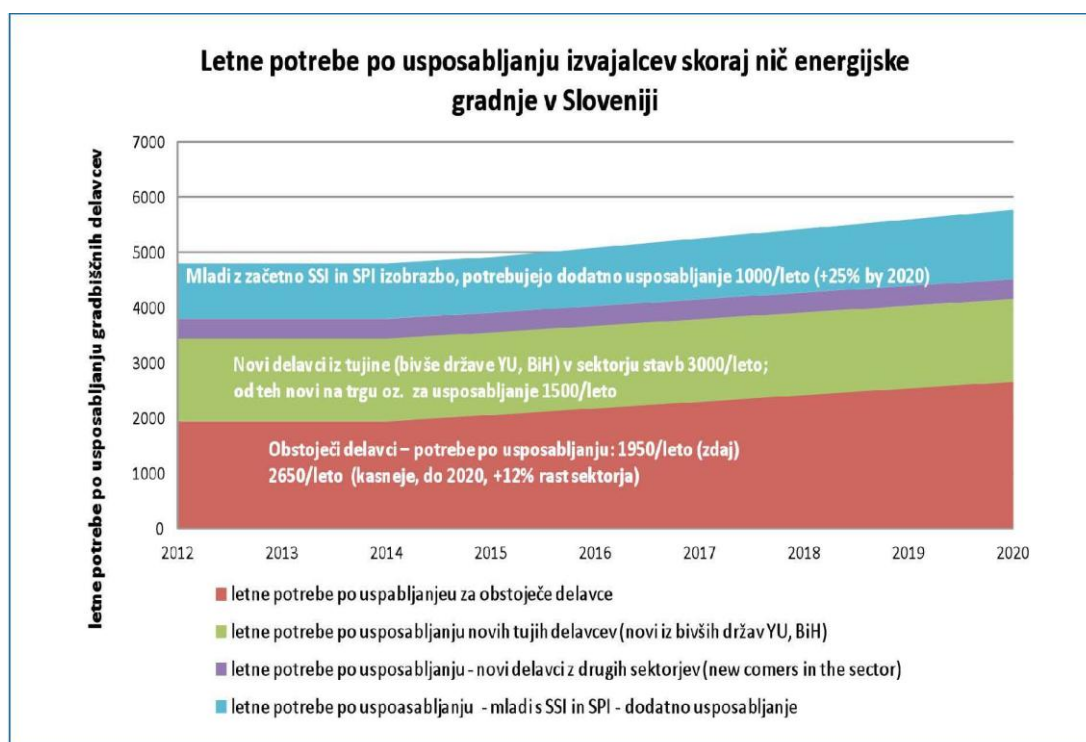


Več o projektu IEE BUILD UP Skills Slovenija lahko najdete na spletni strani: <http://buildupskills.si/> Vabimo vas, da se preko spletne strani priključite zainteresiranim deležnikom in sodelujete v Nacionalni kvalifikacijski platformi BUILD UP Skills Slovenija: <http://platforma.buildupskills.si/>. Pregled dela v 30 evropskih državah vam je na voljo na povezavi: <http://www.buildupskills.eu/>. Projekt v Sloveniji izvajajo: Gradbeni inštitut ZRMK d.o.o. (koordinator, dr. Marjana Šijanec-Zavrl, Slovenski gradbeni grozd-GIZ, Obrtno podjetniška zbornica Slovenije, Inženirska zbornica Slovenije, Šolski center Novo mesto in Center RS za poklicno izobraževanje.

ZAKAJ POTREBUJEMO BOLŠO USPOSABLJENOST IZVAJALCEV SKORAJ NIČ ENERGIJSKIH STAVB DO LETA 2020?

Ker bomo po letu 2020 v skladu z evropsko zakonodajo lahko gradili le še skoraj nič energijske stavbe, se moramo za to primerno usposobiti tudi na strani izvajalcev gradenj in prenov, saj bo poleg novogradenj potrebno energijsko prenoviti tudi 38.000.000 m² obstoječih stavb. Gradnja skoraj nič energijskih stavb, energijsko učinkovita prenova obstoječih stavb ter uporaba obnovljivih virov energije v stavbah predstavljajo prioriteto podnebno – energijske politike Evropske unije (EU) ter hkrati priložnosti za oživitev gradbenega sektorja v Sloveniji.

Slovenski gradbeni sektor se bo moral zato čim prej in na vseh ravneh, še posebej pa na strani izvajalcev gradbenih in obrtniških del, najkasneje do leta 2020 ustrezno (do)usposobiti, da bo lahko kakovostno izvajal začrtane programe nizkoenergijske gradnje in prenove in ob tem izkoristil sredstva, ki jih pri nas in v EU namenjamo za spodbudo tovrstnih naložb, ter da bo konkurenčen doma in v tujini. Izziv je precej velik, saj je analiza stanja pokazala, da bomo morali v Sloveniji do leta 2020 za to postoriti še marsikaj tako na področju formalnega kot neformalnega izobraževanja, izpopolnjevanja in usposabljanja. Na področju formalnega izobraževanja bo potrebno prenoviti obstoječe in izoblikovati nove izobraževalne programe, v odprti del izobraževalnih programov bo potrebno vključiti dodatne vsebine, prenoviti mojstrske in delovodske izpite ter usposobiti učitelje v procesu praktičnega izobraževanja. V okviru neformalnega izobraževanja bo potrebno (do)usposobiti 5000 do 6000 delavcev različnih profilov. Podobno oceno potreb dobimo tudi na podlagi predvidenih ukrepov v akcijskem načrtu AN URE 2, 2011–2016 in na podlagi analize strukture trga delovne sile.



Slika 1: Letne potrebe po usposabljanju

Na podlagi analize stanja smo ocenili potrebe in pristopili k izdelavi načrta za pravočasno usposobljenost izvajalcev skoraj nič energijskih stavb do leta 2020.

SLOVENSKI NAČRT SISTEMSKÉ PODPORE VSEŽIVLJENJSKEMU UČENJU IZVAJALCEV SKORAJ NIČ ENERGIJSKE GRADNJE

Nacionalno strategijo v okviru projekta Build up Skills Slovenija smo na podlagi navedenih ugotovitev razdelili na dve enako pomembni temeljni področji:

- formalno izobraževanje,
- neformalno izobraževanje, izpopolnjevanje in usposabljanje.

V okviru formalnega izobraževanja izvajalcev gradnje in celovite obnove nizkoenergijskih stavb smo opredelili naslednje vsebine:

- področje srednjega poklicnega in srednjega strokovnega izobraževanja,
- nacionalne poklicne kvalifikacije,
- pregled slovenskega okvira kvalifikacij,
- strukturo kvalifikacij na področju gradnje energetske varčnih stavb, energetske sanacije stavb in učinkovite rabe energije v stavbah,
- poklicni standardi.
- strukturirane rešitve in predlagan načrt aktivnosti za njihovo realizacijo:
 - prenova izobraževalnih programov oz. poklicnih standardov,
 - nastajanje novih izobraževalnih programov oz. poklicnih standardov,
 - možnosti vključevanja vsebin v odprti del izobraževalnih programov,
 - prenova mojstrskih in delovodskih izpitov,
 - usposabljanje učiteljev v procesu praktičnega izobraževanja (Train the Trainers).

V okviru neformalnega izobraževanja izvajalcev gradnje in celovite obnove nizkoenergijskih stavb smo opredelili naslednje vsebine:

- sistemska podpora vseživljenjskemu učenju izvajalcev novih gradenj in celovitih obnov v skladu z zahtevami nZEB;
- definiranje temeljnih kompetenc izvajalcev novih gradenj in celovitih obnov v skladu z zahtevami nZEB;
- utemeljitev in opredelitev temeljnih kompetenc izvajalcev novih gradenj in celovitih obnov v skladu z zahtevami nZEB;
- celovit sistem izpopolnjevanja in usposabljanja izvajalcev novih gradenj in celovitih obnov v skladu z zahtevami nZEB, akreditiranja in certificiranja ter vrednotenja. :

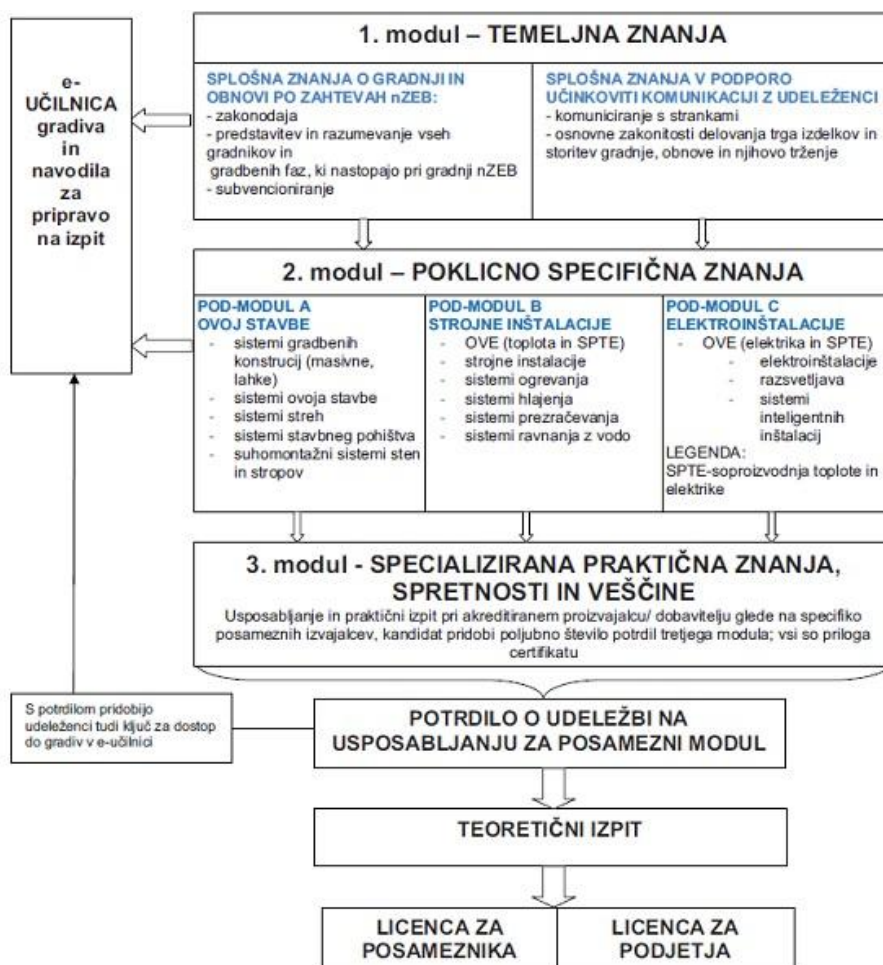
V okviru projekta pa smo predvideli tudi vzpostavitev nacionalne kvalifikacijske platforme. To je: organizacijo in zagon neprofitne, povezovalne platforme vseh zainteresiranih deležnikov za najširšo podporo pripravi in izvedbi programa. Ta bo imela pomembno vlogo pri izvedbi načrta ter pri pripravi predlogov in spodbujanju realizacije različnih podpornih politik, predvsem za zagotovitev sredstev za izvedbo. Načrt je predstavljen skupaj s povzetki analize na spletni strani Build up Skills Slovenia (<http://www.buildupskills.eu/> in <http://buildupskills.si/>).

CELOVIT SISTEM NEFORMALNEGA IZOBRAŽEVANJA IN USPOSABLJANJA IZVAJALCEV NOVIH GRADENJ IN OBNOV V SKLADU Z ZAHTEVAMI NZEB

Za **neformalno izobraževanje, izpopolnjevanje in usposabljanje** smo na podlagi analize stanja na trgu in ugotovljenih prednosti rednega poklicnega in strokovnega ter dobre prakse neformalnega izobraževanja in usposabljanja razvili model, ki po našem mnenju zagotavlja preglednost nad izvajalci, vsebinami in metodami dela ter pridobljenim znanjem udeležencev. Celovit sistem je sestavljen iz treh podsistemov:

- sistem neformalnega izpopolnjevanja in usposabljanja izvajalcev novih gradenj in celovitih obnov v skladu z zahtevami nZEB,
- sistem akreditiranja in certificiranja v shemi neformalnega izpopolnjevanja in usposabljanja izvajalcev novih gradenj in celovitih obnov v skladu z zahtevami nZEB,
- ocenjevalni (evalvacijski) sistem v shemi neformalnega izpopolnjevanja in usposabljanja izvajalcev novih gradenj in celovitih obnov v skladu z zahtevami nZEB.

Model sistema neformalnega izpopolnjevanja in usposabljanja temelji na treh nivojih, ki se izvajajo kot vsebinski moduli in pod-moduli.



Slika 2: Model neformalnega sistema izpopolnjevanja in usposabljanja – BUILD UP Skills Slovenija

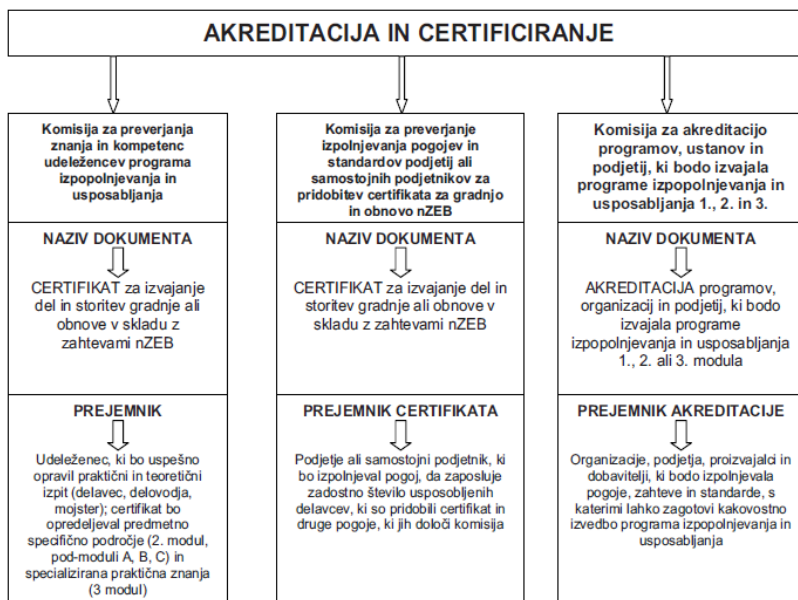
Ciljno skupino potencialnih udeležencev programov izpopolnjevanja in usposabljanja smo razdelili v dve skupini. V prvi skupini so vsi delavci, ki se ukvarjajo neposredno z izvedbo del in storitev, v drugo skupino pa smo uvrstili delovodje in mojstre ter obrtnike s statusom samostojnega podjetnika.

Ugotovili smo, da je pri novi gradnji ali celoviti obnovi po zahtevah nZEB nujno potreben interdisciplinaren pristop, kjer se različne gradbene, obrtniške in inštalaterske stroke dopolnjujejo in nadgrajujejo. Poznavanje in razumevanje celovitosti gradnje in obnove po zahtevah nZEB je zato ključnega pomena za učinkovito izvedbo del ali storitev.

V **prvi modul** so tako zajeta temeljna znanja in potrebne kompetence, ki se nanašajo na novo gradnjo in celovito obnovo v skladu z zahtevami nZEB. **Drugi modul** je namenjen poglobljanju predmetno specifičnega znanja, spretnosti in veščin. Vanj se lahko vključijo udeleženci, ki so se predhodno udeležili usposabljanja v okviru prvega modula, kar dokažejo s potrdilom. Drugi modul smo razdelili glede na predmetno specifične vsebine na tri pod-module: ovoj stavbe, strojne inštalacije, elektroinštalacije. V **tretjem modulu** udeleženci nadgradijo v prvem in drugem modulu pridobljene kompetence s praktičnim delom na področju uporabe in vgradnje materialov ter inštaliranja in servisiranja naprav. Izvajalci usposabljanj v tretjem modulu bodo predvsem proizvajalci ali dobavitelji materialov in naprav, ki bodo predhodno pridobili akreditacijo, s katero bodo dokazovali, da za izvedbo praktičnega usposabljanja izpolnjujejo zahteve, pogoje in standarde, ki jih bo predhodno postavila za to pristojna komisija akreditacijskega organa.

Sistem akreditiranja in certificiranja v shemi neformalnega izpopolnjevanja in usposabljanja

Sistem neformalnega izpopolnjevanja in usposabljanja je podkrepjen s sistemom akreditiranja izvajalcev usposabljanja in certificiranja udeležencev in podjetij. Razdeljen je na več nivojev. Sistem akreditiranja in certificiranja je oblikovan na podlagi strokovnih kriterijev in standardov. Pomembno funkcijo v sistemu akreditiranja in certificiranja bodo imele komisije, ki bodo preverjale znanje in kompetence, pogoje, merila, zahteve in standarde, vodile postopek akreditacij ter izdajale certifikate.



Slika 3: Model akreditiranja in certificiranja

Ocenjevalni sistem v shemi neformalnega izpopolnjevanja in usposabljanja

Za zagotovitev potrebne kakovosti in učinkovitosti smo oblikovali ocenjevalni sistem, s katerim bomo merili (glej tabelo) kakovost in ustreznost pridobljenih znanj, spretnosti in veščin udeležencev. Proces ocenjevanja kakovosti in ustreznosti pridobljenih znanj, spretnosti in veščin udeležencev bomo izvajali v dveh stopnjah; s pomočjo ocenjevalnih vprašalnikov neposredno po izvedbi programa (izpit) in s spremljanjem učinkovitosti usposobljenosti z vprašalniki in intervjuji.

POTRDITEV SLOVENSKEGA NAČRTA SISTEMSKÉ PODPORE VSEŽIVLJENJSKEMU UČENJU IZVAJALCEV SKORAJ NIČ ENERGIJSKE GRADNJE

Za uspešno implementacijo načrta v prakso smo v zadnji fazi projekta pridobili izjave podpore s strani najpomembnejših deležnikov, tako s strani države, s strani možnih izvajalcev načrta kot tudi s strani izvajalcev gradenj, katerim je načrt pravzaprav namenjen.

Potrjevanje načrta je predvideno v obliki podpisa ene izmed treh izjav podpore:

- izjava o interesu za izvedbo načrta in interes za vključevanje v usposabljanje, predvsem podjetja, izvajalci;
- izjava o podpori posameznim ali vsem ukrepom: javne in zasebne organizacije, ki bodo posredno ali neposredno podpirale izvedbo načrta z npr. razvojem dobrih praks, poklicnih standardov, kriterijev za evalvacijo, zagotovitev systemske podpore pri financiranju, opredeljevanju zahtev glede usposobljenosti izvajalcev)
- izjava o interesu za sodelovanje pri izvedbi slovenskega načrta (javne in zasebne organizacije).

Izjave o potrditvi načrta ter podpori nadaljevanju projekta smo pridobili s strani naslednjih deležnikov:

| Javni sektor, gospodarska in strokovna združenja | Zasebni sektor, inštituti in podjetja |
|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Republika Slovenija, Ministrstvo za delo, družino, socialne zadeve in enake možnosti, Direktorat za trg dela in zaposlovanje | Gradbeni inštitut ZRMK d.o.o. |
| Republika Slovenija, Ministrstvo za infrastrukturo in prostor | JUB TRC d.o.o. |
| Zavod RS za zaposlovanje | EVIP Inštitut |
| Eko sklad j.s. | Fragmat d.o.o. |
| Šolski Center Novo Mesto | ROBOTINA d.o.o. |
| Šolski Center Velenje | CBD d.o.o. |
| Obrtna zbornica Slovenije | E-NETSI d.o.o. |
| Gospodarska zbornica Slovenije, Zbornica za gradbeništvo in IGM | EKO PRODUKT d.o.o. |
| Zbornica za gradbeništvo Slovenije | EKOAKTIV d.o.o. |
| Inženirska zbornica Slovenije | Inpro 22 projekt MB d.o.o. |
| SDGD / Sindikat delavcev gradbenih dejavnosti Slovenije | Miktra d.o.o. |
| Elektrotehnična zveza Slovenije | Madizajn Zg. Pimiče d.o.o. |
| Slovensko društvo na področju požarne varnosti | Komplast d.o.o. |
| Regionalni center za okolje (REC Slovenija) | Wienerberger Opekarna Ormož d.o.o. |
| SLOVENSKI GRADBENI GROZD-GIZ | KALCER d.o.o. |
| Slovensko združenje za trajnostno gradnjo / Green Building Council Slovenia | Kovinar Kočevje d.o.o. |
| GIZPFSTI / Gospodarsko interesno združenje proizvajalcev fasadnih sistemov in toplotnih izolacij | MIK d.o.o. |
| GIZ SUHA GRADNJA | Hojan & CO d.o.o. |
| Fakulteta za arhitekturo/Konzorcij pasivna hiša | |
| IRI Univerza v Ljubljani | |

POTRDTIVE KLJUČNIH DELEŽNIKOV

Damjana Košir, generalna direktorica, Republika Slovenija, Ministrstvo za delo, družino, socialne zadeve in enake možnosti, Direktorat za trg dela in zaposlovanje: »Izobraženost in usposobljenost prebivalstva sta najpomembnejša dejavnika uresničevanja cilja Slovenije, temelječe na znanju. Ukrepi MDDSZ na področju izobraževanja in usposabljanja so namenjeni razvoju znanj, spretnosti in kompetenc različnih skupin. Sodelovanje MDDSZ bo možno v okviru zakonskih možnosti, ki jih ponuja Zakon o nacionalnih poklicnih kvalifikacijah in preko strokovne podpore javnih zavodov, ki jih sofinancira.«

Erik Potočar, podsekretar, Republika Slovenija, Ministrstvo za infrastrukturo in prostor, Direktorat za energijo: »Projekt Build up Skills Slovenija je postavil prave temelje, da bomo lahko oblikovali pravo politiko in ukrepe za doseganje bolj kvalitetnega dela izvajalcev, da bomo imeli akreditirane izvajalce usposabljanja in da bodo inštalaterji, od katerih bomo dobili bolj kvalitetno delo, imeli obvezno certificiranje.«

Vesna Črnilogar, sekretarka, vodja sektorja za nepovratna sredstva, Eko sklad j.s.: »Tudi EKO SKLAD potrjuje slovenski načrt za boljšo usposobljenost izvajalcev prenov in gradenj skoraj nič energijskih hiš. In sicer kot verjetno prvi bodoči uporabnik rezultatov, torej seznamov certifikatov ustrezno usposobljenih izvajalcev. Z dodeljevanjem finančnih spodbud samo za tiste naložbe, ki jih bodo izvajali zares ustrezno usposobljeni izvajalci bomo lahko zagotovili učinkovito dodeljevanje javnih spodbud na eni strani, pa drugi strani pa tudi zagotavljali okoljske učinke, ki jih te naložbe morajo prinesiti.«

Jernej Dolinar, podpredsednik skupščine OZS, predsednik Sekcije inštalaterjev in energetikov, Obrtno podjetniška zbornica Slovenije:«Na podlagi modela usposabljanja izvajalcev z udeležbo na strokovnih izobraževanjih bodo posamezniki in podjetja lahko pridobili certifikat in z njim izkazovali strokovno usposobljenost za nizkoenergijsko gradnjo. Prednost modela pa je v tem, da povezuje in daje možnost vsem dosedanjim izvajalcem usposabljanja, da tvorijo mrežo akreditiranih izvajalcev in s tem prispevajo k poenotenju in trajnostnemu načinu usposabljanja, ki ga na tem področju pričakuje EU.«

Jože Renar, direktor, Gospodarska zbornica Slovenije, Zbornica za gradbeništvo in IGM: »Ocenjujem da projekt Build up Skills odpira celoten niz vprašanj vezanih na izvajanje vedno bolj energetske učinkovitih gradenj v Sloveniji. Roadmap, ki je predstavljen v okviru projekta, že predstavlja osnovo za izvedbo vseh aktivnosti, z udeležbo vseh relevantnih udeležencev, istočasno se povezuje tudi z drugimi projekti kot je projekt socialnega dialoga ali SODICO, ki tudi dela na tem, da se v Sloveniji v okviru paritetnih skladov pospeši usposabljanje ljudi v gradbeništvu.«

Oskar Komac, Sindikat delavcev gradbenih dejavnosti Slovenije: »Podpiramo nadaljevanje aktivnosti, ki so bile opredeljene v nacionalnem načrtu, ki je bil pripravljen v okviru projekta Build up Skills Slovenia.«





Mitja Tome, predsednik, GIZ SUHA GRADNJA: »GIZ slovenskih izvajalcev suhe gradnje podpira projekt BUILD UP SKILLS, saj imamo tudi mi v svojem programu predvidena šolanja za izvajalce suhe gradnje. V projekt bi se radi aktivno vključili pri pripravi učnega načrta, ter seveda tudi aktivno sodelovali pri samem izobraževalnem procesu, saj smatramo, da je zelo pomembno tudi znanje izvajalcev suhe gradnje pri izdelavi skoraj nič energijskih stavb.«

Iztok Kamenski, JUB TRC d.o.o.: »Podpiramo izvedbo načrta in se bomo aktivno vključili na področju fasadnih sistemov.«

Miro Škvorc, direktor, EKO PRODUKT d.o.o.: »Pri projektu BUILD UP Skills bi se želeli vključiti glede izobraževanja na področju zrakotesnosti in uporabe naravnih ekoloških toplotnih izolacij. Želeli bi sodelovati tudi pri določanju standardov, ki opredeljujejo izvedbo skeletnih konstrukcij ter uporabo naravnih izolacijskih materialov pri gradnji.«

Miran Knez, direktor podjetja MIKTRA d.o.o.: »Veseli nas, da se je v Sloveniji začel projekt Build up Skills Slovenija za pravočasno usposabljanje vseh izvajalcev, ki so prisotni pri nizkoenergijski gradnji in da se vzpostavi usposabljanje v okviru tega projekta in certificiranje izvajalcev.«

Tomaž Hojan, direktor, Hojan & CO d.o.o.: »Podjetje Hojan je bilo ustanovljeno l 1993 z dejavnostjo izdelava ter montaža električnih inštalacij. Radi bi se vključili v usposabljanje, svetovanje ter pridobitve licenc.«

Irena Hošpel, vodja razvoja izdelkov, Wienerberger Opekarna Ormož d.o.o.: »V imenu podjetja izražam absolutno podporo projektu. Namreč, intenzivni tehnološki razvoj produktov in sistemskih rešitev zahteva nenehno izobraževanje in usposabljanje, ki ga podjetje izvaja že vrsto let. Zato se želimo tudi v prihodnje s svojim izobraževanjem vključiti v izobraževanje pod okriljem projekta Build up Skills Slovenia.«

Miha Šetina, direktor, Madizajn Zg. Pirniče d.o.o.: »V projektu smo pripravljeni sodelovati po svojih močeh, zlasti s področja RAL vgradnje zunanjega stavbnega pohištva, kjer imamo zagotovo veliko izkušenj.«



Evropska komisija oz. kdorkoli v njenem imenu ne prevzema nobene odgovornosti glede podatkov ali stališč, ki so predstavljena v tej publikaciji ali iz nje izhajajo, in ne prevzema nobenih odgovornosti za posledice, ki bi nastale zaradi informacij zapisanih v tej publikaciji. Stališča navedena v tej publikaciji, niso nujno enaka stališčem Evropske komisije.



BUILD UP Skills Slovenia

ENDORSEMENT OF THE SLOVENIAN ROADMAP FOR BETTER QUALIFICATION OF BUILDERS FOR CONSTRUCTION OF NZEB UNTIL 2020

Slovenia needs competent installers of nearly zero energy buildings



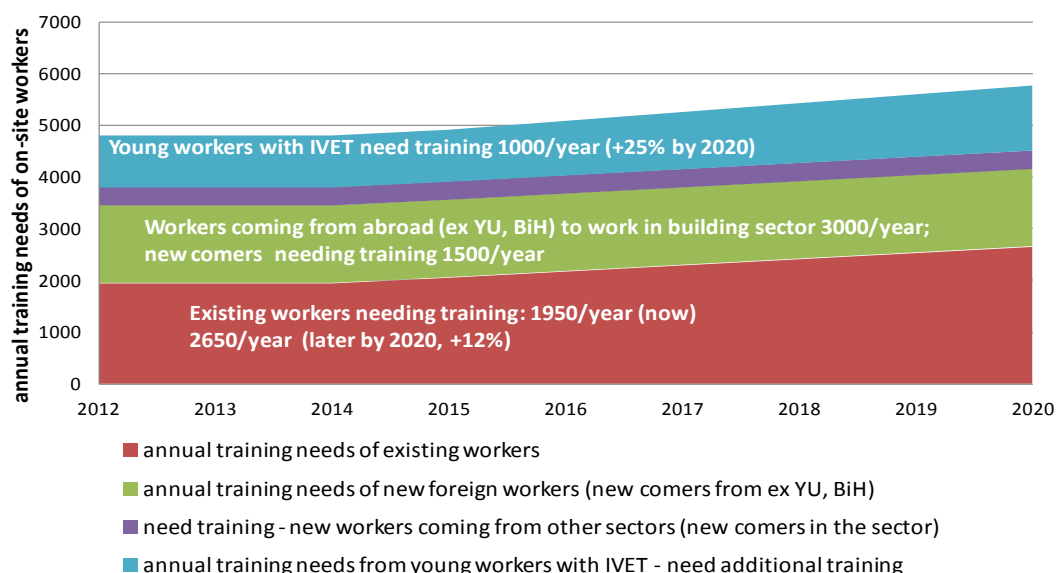
More information on IEE BUILD UP Skills Slovenia project can be found on: <http://buildupskills.si/>. You are invited you to join via web site to the group of interested stakeholders of the project and collaborate in National Qualification Platform BUILD UP Skills Slovenia: <http://platforma.buildupskills.si/>. Overview of the work in more than v 30 European countries can be found on: <http://www.buildupskills.eu/>.

WHY WE NEED COMPETENT INSTALLERS OF THE NEARLY ZERO ENERGY BUILDINGS BY 2020?

After 2020, according to European legislation, only nearly zero-energy buildings can be built. We have to train on site workers (installers and other) of nearly-zero energy buildings appropriately. In addition to new buildings energy-efficient renovation is needed for more 38 million m² of existing buildings. Construction of nearly zero-energy buildings, energy-efficient renovation of existing buildings and the use of renewable energy sources in buildings represent a priority of climate change & energy policy of the European Union (EU), as well as an opportunity to revitalize the construction sector in Slovenia.

Slovenian construction sector will have to gain appropriate competences of the installers and other workers nZEB - as soon as possible and at all levels, but no later than 2020 - to be able to implement planned national low-energy construction and renovation programs, and to able take advantage of assets held by us and the EU devoted to encourage such investments. Additionally the sector will be more competitive at home and abroad. The challenge is quite large. The analysis of the situation shows that Slovenia will have to do much more until 2020 in the field of formal and non-formal education, development and training to reach these goals. In the area of formal education, the renovation of the existing and creation of new educational programs in the open part of the training programs additional features will be required, renovation of to master and foreman examinations, and the training of the teachers in the process of practical training. In the context of non-formal education (up) to 6,000 workers of various profiles have to be trained. Similar assessment of needs for training can be obtained on the basis of the measures envisaged in the nation action plan (AN AURE 2, 2011 to 2016) in the field of energy efficiency and renewable energy sources; and on the analysis of the structure of the labour market.

Annual training needs of on-site workers in Slovenian nZEB sector



Based on the analysis of the situation we assessed the needs for training needs and elaborated a roadmap for the timely qualification of installers of nearly zero-energy buildings by 2020.

ROADMAP FOR LIFELONG LEARNING PROGRAMME FOR ON-SITE WORKERS IN SLOVENIAN nZEB SECTOR

National strategy in the frame of Build up Skills Slovenia has been divided to two equally important areas:

- Formal VET
- Non-formal VET

In the field of Formal vocational education and training of installers of nZEB buildings we prepared the contributions to roadmap in following fields:

- Review of national vocational education and training programme
- National Vocational Qualifications (overview, structure of qualification and vocational standards related to nZEB)
- Plan for systematic improvements and needed actions:
- Renovation of education curricula, mainly vocational standards
- Development of new educational programmes and vocational standards
- Plans for additional contents of the open part of education and training curricula
- Renovation of master and foreman exams
- Train the Trainers programme.

In the field of Non-formal vocational education and training of installers of nZEB buildings to roadmap defines:

- Needs for systematic support for lifelong learning of installers of nZEB buildings;
- Description of learning outcomes/knowledge/skills/competences for over 30 nZEB occupations;
- Description of basic and other competences of installers of nZEB;
- A comprehensive system of training of workers in nZEB sector of Slovenia (new buildings, renovation), including the system of accreditation of training providers, evaluation of training outcomes and certification (voluntary scheme) of workers trained.

Within the project we anticipated the establishment of national qualification platform (NQP) and its sustainability. That is: the organization and start-up of non-profit, networking platforms of all interested stakeholders for the widest support the preparation and implementation of the roadmap. NQP will play an important role in the implementation of the roadmap and in the preparation of proposals and promotion of the realization of different support policies, in particular to mobilize resources for implementation.

The Build up Skills Slovenia Roadmap is presented together with a summary analysis on the website Build up Skills Slovenia (<http://www.buildupskills.eu/> in <http://buildupskills.si/>).

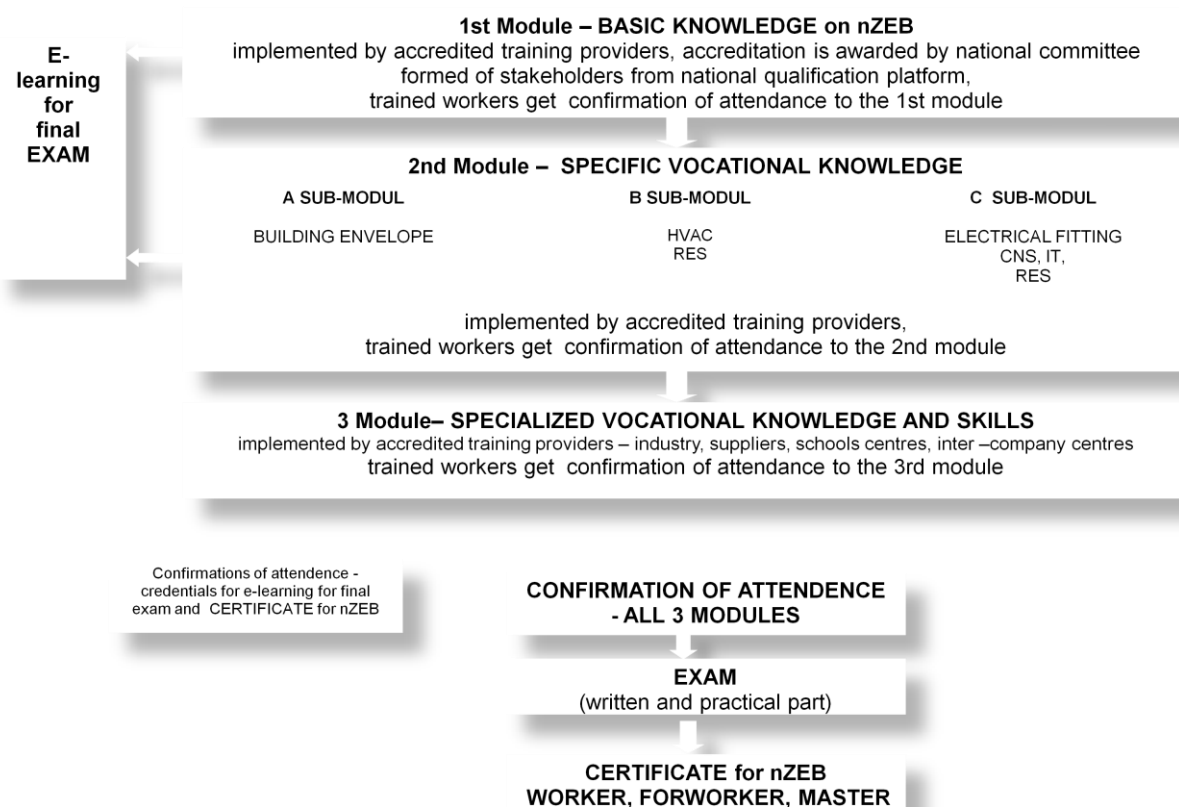


A COMPREHENSIVE SYSTEM OF TRAINING OF WORKERS IN NZEB SECTOR OF SLOVENIA

The system of non-formal education, training and education of nZEB workers is based on the analysis of the market and identified benefits of regular vocational training, and on good practices of non-formal education and training currently provided in Slovenia. The model provides overview and transparent management of training providers, training content and methods of training, and of acquired knowledge of the workers trained. A comprehensive system consists of three subsystems

- System of non-formal education, training and education of nZEB workers
- System of accreditation of training providers and certification of workers trained,
- System of evaluation of non-formal training results.

Model of non-formal education and training is implemented with three levels of content modules and sub-modules.



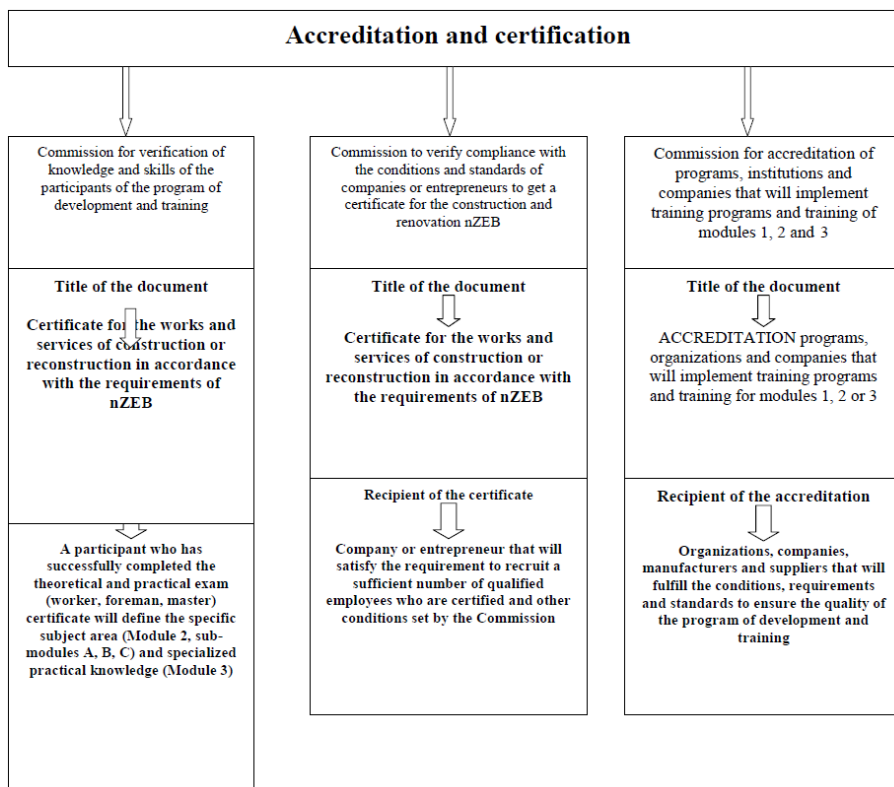
The target potential participants in training programs and training were divided into two groups. In the first group are all professionals who execute directly the works and provide services. In the second group are foremen, craftsmen, and small individual entrepreneurs.

We found that the new construction or complete renovation according to the nZEB requirements necessary needs interdisciplinary approach. Various construction, finishing and installation expertise complement and build upon each other. Knowledge and understanding of the integrity of the nZEB construction and retrofitting is therefore essential for the efficient execution of works or services.

The first module covers basic knowledge and skills in regard to new construction and complete renovation according with the requirements of nZEB. The second module is aimed at deepening subject-specific knowledge and skills. It is for participants who had previously received training in the first module, as proven by a certificate. The second module was divided according to subject-specific content into three sub-modules: the building envelope, mechanical installations, and electrical installations. In the third module, participants upgrade in the first and second module acquired skills through practical work with materials, and installation and servicing of nZEB equipment. Providers of this part of training in the third module will be primarily producers or suppliers of materials and equipment. These providers will need to acquired accreditation which will demonstrate that the implementation of practical training meet the requirements, conditions and standards which will be pre-set by the commission of the accreditation body.

System of accreditation of training providers and certification of workers trained

The system of non-formal training is supported by a system of accreditation of training providers and certification of workers trained and companies. It is divided into several levels. A system of accreditation and certification is designed on the basis of professional criteria and standards. An important role in the system of accreditation and certification will be given to the commissions, which will review the knowledge and competencies, conditions, criteria, requirements and standards, lead the accreditation process and issue certificates.



System of evaluation of non-formal education and training

To ensure the necessary quality and efficiency, we designed an evaluation system that will be used to measure the quality and relevance of the acquired knowledge and skills of the participants. The process of assessing the quality and relevance of the acquired knowledge and skills of the participants will be carried out in two stages, with the help of evaluation questionnaires immediately after completion of the program (exam) and with the monitoring the effectiveness of training in practice by questionnaires and interviews.

ENDORSEMENT OF THE SLOVENIAN ROADMAP FOR BETTER QUALIFICATION OF BUILDERS FOR CONSTRUCTION OF NZEB UNTIL 2020

For the successful implementation of the roadmap in practice, we obtained in the final stage of the project statements of support from the most important stakeholders; from public sector stakeholders as well as by the contractors (construction companies, installers).

The plan for the endorsement envisaged the endorsement in the form of signing one of the three statements of support:

- Declaration of interest for the implementation of the plan and an interest in engaging in training, (especially businesses, contractors);
- Statement of support to individual or all measures: public and private organizations that are directly or indirectly supporting the implementation of the roadmap, for example by development of best practices, professional standards, evaluation criteria, providing systematic support in financing, by defining requirements for training providers)
- Declaration of interest to participate in the implementation of the Slovenian Build up Skills roadmap (public and private organizations).

Endorsement statements and statements for the support of the continuation of the project were obtained from the following stakeholders:

| Public sector, business and professional associations | Private sector, companies, institutes |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Republic of Slovenia, Ministry of Labour, Family, Social Affairs and Equal Opportunities, Directorate for Labour Market and Employment | Building and Civil Engineering institute ZRMK |
| Republic of Slovenia, Ministry of Infrastructure and Spatial Planning | JUB TRC Ltd, technological research centre |
| Employment Service of Slovenia (Zavod RS za zaposlovanje) | EVIP Institute |
| ECO FUND j.s. | Fragmat Ltd |
| School Centre Novo Mesto | ROBOTINA Ltd |
| School Centre Velenje | CBD Ltd |
| Chamber of Craft and Small Business of Slovenia | E-NETSI Ltd |
| Chamber of Commerce and Industry of Slovenia, | EKO PRODUKT Ltd |
| Chamber for Construction in Slovenia | EKOAKTIV Ltd |
| The Slovenian Chamber of Engineers | Inpro 22 projekt MB Ltd |
| SDGD / Trade Union of Construction Workers of Slovenia | Miktra Ltd |
| Electro technical Association of Slovenia | Madizajn Zg. Piričiče Ltd |
| Slovenian Association for Fire Safety | Komplast Ltd |
| Regional Environmental Centre - Ljubljana | Wienerberger Opekarna Ormož Ltd |
| Construction Cluster of Slovenia | KALCER Ltd |
| Green Building Council Slovenia | Kovinar Kočevje Ltd |
| GIZPFSTI / Economic interest association of the producers of facade system and thermal insulations | MIK Ltd |
| Economic interest association of prefabricated building | Hojan & CO Ltd |
| University of Ljubljana, Faculty of Architecture/ Passive house consortium | |
| IRI UL – Institute for Innovation and Development of University of Ljubljana | |

ENDORSEMENT STATEMENTS BY KEY STAKEHOLDERS

Ms Damjana Košir, General Director, Republic of Slovenia, Ministry of Labour, Family, Social Affairs and Equal Opportunities, Directorate for Labour Market and Employment: Education and training of the population are key drivers towards the goal of Slovenia in the field of knowledge. Measures of the ministry in the field of education and training are designed to develop the skills and competencies of different groups. Collaboration of the Ministry of Labour will be possible in the context of the legal possibilities offered by the Law on National professional Qualifications and professional support through public institutions, financed by the ministry.

Erik Potočar, undersecretary, Republic of Slovenia, Ministry of Infrastructure and Spatial Planning: Project Build Up Skills Slovenia has set solid foundations so we can develop the right policies and measures to achieve a better quality of performers. Additionally, we will have system for the accreditation of training providers and installers, from which we get quality work, and we will have compulsory certification system for them.

Vesna Črnilogar, Secretary, Head of sector for subsidies, Eco Fund: The Eco Fund confirms the Slovenian Roadmap for better qualification of builders for construction of NZEB until 2020. Namely, as probably the first prospective user of the results of a, that is of the lists of certificates of duly qualified contractors. By awarding financial incentives for those investments to be carried out by suitably qualified contractors we can really ensure the efficient allocation of public incentives on the one hand, and on the other hand assure environmental effects of these investments.

Jernej Dolinar, Vice-President of the Assembly, and President of the Section of Energy and installers of the Chamber for Craft and Small Business of Slovenia: With a training as anticipated by the model developed within Build up Skills Slovenia the individuals and companies will obtain a certificates and will be able to show competence in the low-energy construction. The advantage of the model is that it connects and gives the possibility of all previous training providers to form a network of accredited training providers and thereby to contribute to the unification and sustainable method of training in this field as is expected the EU.

Jože Renar, Director of the Chamber of Construction and Building Materials, Chamber of Commerce and Industry of Slovenia: We estimate that the project Build Skills opens up a full range of issues related to the implementation of more energy-efficient construction in Slovenia. Roadmap that is presented in the context of the project already forms the basis of all needed activities, with the participation of all relevant actors. At the same time it also enables collaboration with other projects such as the project of social dialogue or SODICO. The goal of this project is to develop parity funds in Slovenia to accelerate the training of workers in the construction industry.

Oskar Komac Union of Slovenian construction industry: "We support the continuation of the activities that have been identified in the national roadmap, which was prepared in the framework of the project Build Up Skills Slovenia.





Mitja Tome, President, Economic Interest Association Dry-walling: Our association supports BUILD UP SKILLS, because we also have in our program training for worker of dry-wall construction. We are interested to actively participate in the Build up Skills Slovenia project in preparation of the curriculum, and of course also actively participate in the educational process itself. We believe the knowledge of installers of dry-wall systems is a very important part of nearly zero-energy buildings.

Iztok Kamenski, TRC JUB doo: We support the implementation of the roadmap and will be actively involved in the field of façade systems.

Miro Škvorc, Director of EKO PRODUCT Ltd.: "The project BUILD UP Skills would like to include the education of air tightness and use of natural organic insulation. We would like to take part in setting the standards that define the performance of skeletal structures, and use of natural insulation materials in construction. "

Miran Knez, CEO MIKTRA Ltd.: We are pleased that a project Build Up Skills Slovenia for the training of all operators in the low-energy building in Slovenia has been launched; and that the roadmap supports the training and certification of contractors of NZEB.

Hojan Thomas, Director, Hojan & CO. Ltd. "Hojan Company was founded in 1993 with the activity of production and installation of electrical installations. We would like to get involved in training, consulting and obtaining licenses.

Irena Hošpel, head of product development, Wienerberger Brickworks Ormož Ltd.: On behalf of the company I express my absolute support for the project. Indeed, intensive technological development of products and system solutions requires continuous education and training which has been implemented in our company for a number of years. So we want to continue with these training activities and are willing to include them under the auspices of Project Build Up Skills Slovenia.

Miha Šetina, Director of Madizajn Zg. Pirniče Ltd: this project we are prepared to do its best, especially in the field of RAL installation of external doors and windows, where we have definitely a great experience.



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