

Narrative report

Project: Preparatory workshops for World Robotics Olympiad 2025 Ljubljana

Applicant: Croatian Robotics Association (Hrvatski robotički savez – HROBOS)

Implementation period: 9 July 2025 – 31 October 2025

Grant awarded: 1000 EUR

Translation to English with AI. Original in Croatian is below.

1. Introduction and Project Objectives

The project Preparatory Workshops for WRO 2025 Ljubljana was implemented within the EU Code Week Small Grants 2025 initiative, with the aim of strengthening the digital, technical, and creative competencies of children and young people in Croatia. During the period from 9 July to 31 October 2025, the project brought together young roboticists from the Lipovljani Technical Culture Club and their mentors, enabling structured and focused preparation for participation in the international World Robot Olympiad (WRO) competitions.

The main objective of the project was to empower Croatian teams to participate in two major international events: the European WRO Final in Ljubljana and the World WRO Final in Singapore. The project aimed to encourage the development of programming and engineering skills, as well as to build work habits, independence, and collaborative abilities among participants. It was based on learning through practice, where young participants developed solutions through iterative work, testing, and collaboration, while learning how to make technical decisions, analyze problems, and take responsibility for their work.

Special emphasis was placed on encouraging girls' participation in STEM fields and on creating a supportive environment in which all participants could develop according to their interests and pace of progress. In addition to technical preparation, the project provided participants with international exchange experiences, opportunities to meet peers from around the world, and participation in a global robotics community.

Through this project, the Croatian Robotic Association and the Lipovljani Technical Culture Club continued to develop a network of young innovators and mentors who actively contribute to the growth of the STEM community, while participants gained

valuable skills and experiences that will benefit them in future competitions and educational pathways.

2. Implemented Activities

2.1 Preparatory Phase (July – August 2025)

In the initial phase of the project, a detailed work plan was developed, covering the workshop schedule, preparation content, technical objectives, and criteria for monitoring participants' progress. At the same time, a mentoring team was formed, consisting of Ivana Grabar and Krešimir Dalenjak. Their role was to align the technical requirements of the competition with the participants' abilities and experience and to design a methodological approach that would enable stable and gradual progress for young roboticists.

During July and August, the competition team structure of the Lipovljani Technical Culture Club was defined and formed. Two teams were selected to participate in the project:

- LipBots RM in the RoboMission Junior category
- LipBots in the Future Innovators Senior category

This selection enabled work on two very different types of challenges: a technically precise autonomous robot mission and an innovation project involving design, electronics, programming, and artificial intelligence.

As part of the preparatory phase, equipment necessary for the workshops was procured, including LEGO Spike kits, additional sensors, modules, development boards, testing materials, and computer tools for programming and project documentation. Educational materials, worksheets, technical task instructions, and digital tools were also prepared to help participants better track both theoretical and practical competition elements.

All project activities were registered on the official EU Code Week map, increasing project visibility and confirming its inclusion in the European STEM events network. Introductory mentor meetings were also held to define workshop goals, testing plans, and methods for monitoring participant progress.

2.2 Workshops and Mentoring (September – October 2025)

The core of the project was delivered through a series of preparatory workshops held in Lipovljani. Participants worked in small teams, allowing for an individualized mentoring approach. Workshops were organized as a combination of short theoretical introductions and intensive practical work. Each workshop had clearly defined

objectives, such as mastering specific algorithms, testing mechanical assemblies, improving documentation, or analyzing competition tasks.

Participants used various programming languages and tools, including Scratch, Python, Arduino IDE, and LEGO Spike software. In the RoboMission category, the focus was on algorithm stability, sensor reliability, and mission execution time optimization. In the Future Innovators category, emphasis was placed on developing an innovative solution, integrating electronics, testing waterproof housing, applying artificial intelligence, and preparing technical documentation.

Mentors applied a problem-based learning approach, where participants first explored and proposed solutions and then improved them through repetition and testing. Independence was encouraged throughout the process. Competitors independently wrote code, assembled components, 3D-printed parts, and maintained project documentation, while mentors provided guidance when needed.

Workshops also included competition simulations, mini-challenges, and time-pressure testing, which proved extremely important in building participant confidence and solution stability under conditions similar to those at international finals.

2.3 Team Participation in Finals

Team LipBots RM – RoboMission Junior

(European WRO Championship, Slovenia)

The LipBots RM team, consisting of Josip Biro and Borna Kos, with mentors Ivana Grabar and Krešimir Dalenjak, began intensive preparations after winning third place at the national competition in Samobor. One of the key decisions was transitioning from block-based programming to Python, which significantly increased robot precision and speed. Although the transition was challenging at first, the team stabilized their code through persistent work and achieved excellent track performance.

At the European WRO Championship in Slovenia, the team achieved an outstanding result. On the first competition day, they scored the maximum number of points with the fastest time of the tournament, and on the second day they confirmed their quality in the Second Day Challenge, winning second place among top teams from across Europe and several global teams.

Team LipBots – Future Innovators Senior

(World WRO Championship, Singapore)

The LipBots team, consisting of Lucija Jancetić, Filip Beljan, and Roko Piršić, competed in the Future Innovators Senior category after winning first place at the national competition in Samobor.

Their project, PoseiDron, was an innovative and socially beneficial solution: an underwater drone using an AI camera to identify invasive species and underwater waste, while recording locations that can be forwarded to relevant institutions. This addresses a major issue in marine ecosystem conservation, especially as traditional diver-based research is often expensive and time-consuming.

During preparation, the greatest challenges included integrating all components into a waterproof housing, preventing overheating of motors and electronics in confined space, and ensuring system safety during prolonged underwater operation. The solution involved implementing a water-cooling system and optimizing the internal component layout.

At the World Finals in Singapore, the team successfully competed in the category for the first time. Among 74 top teams worldwide, they achieved 31st place and presented a project that attracted significant attention from international participants and mentors.

Participation in both competitions provided young roboticists with valuable experience, new friendships, and opportunities for global idea exchange. The knowledge gained will serve as a strong foundation for even better performance in future seasons.

3. Achieved Results

3.1 Workshops and Number of Participants

During the project, six preparatory workshops and one final competition simulation were held. More than twenty young participants aged 8 to 18 took part. Participants came from different primary and secondary school levels, creating a diverse environment where younger students learned from older ones, while older participants developed leadership and peer-mentoring skills.

Workshops enabled systematic and gradual progress, allowing each participant to advance according to their abilities. Through practical tasks and teamwork, participants learned to solve technical problems, program, test solutions, and analyze results.

3.2 Strengthening Technical and Programming Skills

Participants acquired knowledge in programming, robotics, electronics, and artificial intelligence. In RoboMission Junior, a significant improvement was achieved through the

transition to Python, enabling the development of more stable and complex autonomous algorithms.

In Future Innovators Senior, participants developed a fully functional innovation project incorporating prototype design, electronics, mechanics, sensor technologies, and image processing. Young participants mastered workflows used in professional engineering projects, giving them a valuable advantage in future education.

3.3 Successful Performances at European and World Finals

Two competition teams from the Lipovljani Technical Culture Club represented Croatia at international WRO finals.

- LipBots RM – RoboMission Junior won second place at the European WRO Championship in Slovenia, achieving maximum points and the fastest time on the first competition day.
- LipBots – Future Innovators Senior placed 31st out of 74 teams at the World WRO Championship in Singapore. The PoseiDron project attracted international attention for its practical value and innovative approach to environmental challenges.

Both teams gained invaluable international experience and demonstrated adaptability to different competition formats.

3.4 Materials Development and Resource Strengthening

The project resulted in the creation of educational materials, technical guidelines, task worksheets, and documentation that will be used by the Croatian Robotic Association in future preparations and workshops. Participants independently developed code, documents, and 3D models with mentor support, creating a strong foundation for future technical and programming activities.

3.5 Community Collaboration and STEM Promotion

The project strengthened collaboration among mentors, parents, and local organizations in Lipovljani. Team success increased interest in robotics and STEM activities, reflected in a growing number of inquiries about future workshops and programs. The Lipovljani Technical Culture Club further reinforced its role as a hub for young creatives and innovators.

4. Promotion and Visibility

Throughout implementation, the project was actively promoted through the channels of the Croatian Robotic Association, the Lipovljani Technical Culture Club, and local media. Regular social media posts showcased team preparations, workshop results,

and project development processes, making the project visible to a wider audience and encouraging greater interest in STEM activities. All workshops and preparatory activities were registered on the official EU Code Week map, providing European-level visibility.

5. Evaluation and Conclusion (Lessons Learned)

Participants and mentors expressed high satisfaction with the workshop quality, working methods, and preparation organization. Continuous participant progress was evident across all project phases, both in technical skills and in independence, teamwork, communication, and confidence in problem-solving. Competitors assumed responsibility for most practical work, including programming, 3D printing, technical documentation, and prototype testing. This approach fostered creativity, self-confidence, and motivation for further STEM development.

Success at both European and World Finals confirms that the preparations were well planned and executed. LipBots RM achieved an outstanding result by winning second place in Slovenia, while LipBots presented the innovative PoseiDron project and achieved a respectable 31st place in strong global competition in Singapore. Beyond results, the project's value lies in the international experience gained through interaction with competitors from different countries and exposure to diverse robotic solutions and approaches.

The project achieved all planned objectives and confirmed the importance of investing in early development of digital and technical skills. Cooperation between mentors, the Lipovljani Technical Culture Club, and the local community was strengthened, and new resources were created to support future projects. Young roboticists demonstrated their ability to achieve top-level results when provided with quality opportunities and support.

The project thus contributed to the development of a new generation of young innovators, promoted interest in STEM fields, and further strengthened Croatia's role in the international robotics community.



Students wearing promotional T-shirts with Code Week logo, WRO logo and Croatian Robotics Association logo.

Facebook posts:

https://www.facebook.com/permalink.php?story_fbid=pfbid0A1JERAYNK2uT9PwWaEVGQabuobQuuUFX6MU1MkUvR74fvytbQTJ9gXUVwah7D89Xl&id=100085308588668

<https://www.facebook.com/hrobos/posts/pfbid0cUgahhzx6mAhTJdDkAnZJFMxo2NEaE59WsG5J7djfwC3gUMPzTWtEBs9g98Q7jazl>

6. Financial Summary

The project “Preparatory Workshops for WRO 2025 Ljubljana”, implemented by the Croatian Robotics Association, was co-financed through the EU Code Week Small Grants 2025 programme.

The following costs were covered by the awarded grant:

- Travel costs: Travel expenses were covered for two persons who were directly involved in the implementation of the preparatory activities within the project, acting as workshop leaders and providing expert support to the teams. Their

physical presence at the final competition in Ljubljana ensured continuity of work with the teams, monitoring of progress, evaluation of the outcomes achieved during the workshops, and additional on-site support for the students.

In addition, one of the members participated in the competition in the role of a judge, which further contributed to the visibility of the project and to the inclusion of Croatian representatives in the international STEM community.

- Promotional T-shirts: Produced for participants of the preparatory workshops and used during the competition as part of project promotion and the visibility of the EU Code Week initiative.

The costs are directly linked to the activities outlined in the project application and are in line with the project objectives, strengthening young people's competencies through professionally guided preparation and international participation.

The project used the grant of 1000 EUR to cover the promotional T-shirts and travel costs.

ZAVRŠNO IZVJEŠĆE – NARATIVNI DIO

Projekt: *Pripremne radionice za WRO 2025. Ljubljana*

Prijavitelj: Hrvatski robotički savez

Razdoblje provedbe: 9. srpnja – 31. listopada 2025.

1. Uvod i ciljevi projekta

Projekt *Pripremne radionice za WRO 2025. Ljubljana* proveden je u okviru inicijative EU Code Week Small Grants 2025, s ciljem jačanja digitalnih, tehničkih i kreativnih kompetencija djece i mladih u Hrvatskoj. Tijekom razdoblja od 9. srpnja do 31. listopada 2025. projekt je okupio mlade robotičare iz Kluba tehničke kulture Lipovljani i njihove mentore, kako bi se kroz strukturirane pripreme omogućila kvalitetna i usmjerena priprema za nastup na međunarodnim natjecanjima World Robot Olympiad.

Glavni cilj projekta bio je osnažiti hrvatske timove za sudjelovanje na dva velika međunarodna događaja: Europskoj WRO završnici u Ljubljani i Svjetskoj WRO završnici u Singapuru. Time se željelo potaknuti razvoj programerskih i inženjerskih vještina, ali i izgraditi radne navike, samostalnost i suradničke sposobnosti kod sudionika. Projekt se temeljio na učenju kroz praksu, gdje mladi razvijaju rješenja kroz iterativni rad, testiranje i suradnju, a pritom uče kako donositi tehničke odluke, analizirati probleme i usvajati odgovornost za svoj rad.

Poseban naglasak stavljen je na poticanje sudjelovanja djevojaka u STEM području te na stvaranje poticajnog okruženja u kojem se svi sudionici mogu razvijati u skladu sa svojim interesima i tempom napredovanja. Uz tehničku pripremu, projekt je pružio i iskustvo međunarodne razmjene, upoznavanja vršnjaka iz cijelog svijeta i sudjelovanja u globalnoj zajednici robotičara.

Kroz ovaj projekt Hrvatski robotički savez i Klub tehničke kulture Lipovljani nastavili su razvijati mrežu mladih inovatora i mentora koji aktivno doprinose rastu STEM zajednice, dok su sudionici stekli vrijedne vještine i iskustva koja će ih pratiti i u budućim natjecanjima i obrazovnim putevima.

2. Provedene aktivnosti

2.1 Pripremna faza (srpanj – kolovoz 2025.)

U početnoj fazi projekta izrađen je detaljan plan rada koji je obuhvaćao raspored radionica, sadržaj priprema, tehničke ciljeve i kriterije praćenja napretka sudionika. Paralelno s time definiran je mentorski tim, koji su činili Ivana Grabar i Krešimir Dalenjak. Njihova uloga bila je uskladiti tehničke zahtjeve natjecanja s mogućnostima i iskustvom sudionika te pripremiti metodološki pristup koji će mladim robotičarima omogućiti stabilan i postupan napredak.

Tijekom srpnja i kolovoza dogovorena je i formirana struktura natjecateljskih timova Kluba tehničke kulture Lipovljani. Za sudjelovanje u projektu odabrana su dva tima: LipBots RM u kategoriji RoboMission Junior i LipBots u kategoriji Future Innovators Senior.

Ovaj odabir omogućio je rad na dvije posve različite vrste izazova – tehnički preciznoj misiji autonomnog robota i inovacijskom projektu s elementima dizajna, elektronike, programiranja i umjetne inteligencije.

U sklopu pripremne faze nabavljena je i oprema potrebna za provedbu radionica: LEGO Spike kompleti, dodatni senzori, moduli, razvojne pločice, materijali za testiranja te računalni alati za programiranje i dokumentiranje projekta. Uz opremu pripremljeni su edukacijski materijali, radni listovi, tehničke upute za zadatke te digitalni alati koji su sudionicima omogućili bolje praćenje teorijskih i praktičnih segmenata natjecanja.

Sve projektne aktivnosti registrirane su na službenoj EU Code Week karti, čime je povećana vidljivost projekta i potvrđeno njegovo sudjelovanje u europskoj mreži STEM događanja. Održani su i uvodni sastanci mentora, tijekom kojih su dogovoreni ciljevi svake radionice, plan testiranja i način praćenja napretka sudionika.

2.2 Radionice i mentorski rad (rujan – listopad 2025.)

Glavni dio projekta ostvario se kroz niz pripremnih radionica održanih u Lipovljanima. Sudionici su radili u manjim timovima, što je omogućilo mentorski pristup svakom članu tima. Radionice su bile organizirane kao kombinacija kratkih teorijskih uvoda i intenzivnog praktičnog rada. Svaka radionica imala je jasno definirane ciljeve, poput usvajanja određenih algoritama, testiranja mehaničkih sklopova, unaprjeđivanja dokumentacije ili analize natjecateljskih zadataka.

Sudionici su koristili različite programske jezike i alate, među kojima Scratch, Python, Arduino IDE i LEGO Spike softver. U kategoriji RoboMission naglasak je bio na stabilnosti algoritama, pouzdanosti senzora i optimizaciji vremena izvođenja misija. U kategoriji Future Innovators naglasak je bio na razvoju inovacijskog rješenja, spajanju elektronike, provjeri vodo nepropusnosti kućišta, korištenju umjetne inteligencije i izradi tehničke dokumentacije.

Mentori su primjenjivali pristup utemeljen na rješavanju problema, gdje sudionici najprije istražuju i predlažu rješenja, a zatim kroz ponavljanje i testiranje uče kako poboljšati preciznost i kvalitetu vlastitog rada. Kroz cijeli proces poticana je samostalnost sudionika. Natjecatelji su tako sami izrađivali kod, slagali komponente, 3D printali dijelove i vodili dokumentaciju projekta, dok su mentori pružali smjernice i usmjeravali ih kada je to bilo potrebno.

Radionice su uključivale i simulacije natjecanja, mini izazove i testiranja pod vremenskim pritiskom. Ovaj dio priprema bio je iznimno važan jer su sudionici razvijali sigurnost u nastupu i povećavali stabilnost svojih rješenja u uvjetima sličnim onima na međunarodnim završnicama.

2.3 Sudjelovanje timova na završnicama

Tim LipBots RM – RoboMission Junior (Europsko WRO prvenstvo, Slovenija)

Tim LipBots RM, u sastavu Josip Biro i Borna Kos, uz mentoricu Ivanu Grabar i mentora Krešimira Dalenjaka, započeo je intenzivne pripreme nakon osvojenog trećeg mjesta na državnom natjecanju u Samoboru. Jedna od ključnih odluka bila je prelazak s blok programiranja na Python, što je uvelike povećalo preciznost i brzinu robota. Iako je početak bio zahtjevan zbog učenja novog načina razmišljanja i programiranja, tim je kroz uporan rad stabilizirao kod i postigao izvrsnu učinkovitost na stazi.

Na Europskom WRO prvenstvu u Sloveniji ostvarili su izniman rezultat. Prvog dana natjecanja postigli su maksimalan broj bodova uz najbrže vrijeme turnira, a drugog dana

potvrdili su svoju kvalitetu u Second Day Challengeu te osvojili drugo mjesto u konkurenciji vrhunskih ekipa iz cijele Europe i nekoliko svjetskih timova.



Tim LipBots – Future Innovators Senior (Svjetsko WRO prvenstvo, Singapur)

Tim LipBots, u sastavu Lucija Jancetić, Filip Beljan i Roko Piršić, nastupio je u kategoriji Future Innovators Senior nakon osvojenog prvog mjesta na državnom natjecanju u Samoboru.

Njihov projekt PoseiDron bio je inovativno i društveno korisno rješenje. Riječ je o podvodnom dronu koji koristi AI kameru za identifikaciju invazivnih vrsta i podvodnog otpada te bilježi lokacije koje se mogu proslijediti nadležnim institucijama. Time se rješava jedan od velikih problema u očuvanju morskih ekosustava, osobito jer su tradicionalna istraživanja pomoću ronioaca često preskupa i vremenski zahtjevna.

Tijekom priprema najveći izazovi bili su povezivanje svih komponenti u vodonepropusno kućište, sprječavanje pregrijavanja motora i elektronike u skućenom prostoru te sigurnost sustava tijekom dugotrajnog podvodnog rada. Rješenje je pronađeno u ugradnji sustava vodenog hlađenja i optimizaciji smještaja unutarnjih dijelova.

Na svjetskoj završnici u Singapuru tim se uspješno snašao u kategoriji u kojoj se po prvi put natjecao. U konkurenciji 74 najbolje ekipe svijeta ostvarili su 31. mjesto i predstavili projekt koji je privukao veliku pozornost međunarodnih sudionika i mentora.

Sudjelovanje na oba natjecanja donijelo je mladim robotičarima vrijedno iskustvo, nova poznanstva i razmjenu ideja s ekipama iz mnogih zemalja svijeta.

Stekli su znanje koje će im biti temelj za još bolji rad u sljedećim sezonama.



3. Postignuti rezultati

U razdoblju provedbe projekta ostvareni su rezultati koji potvrđuju kvalitetu provedenih aktivnosti, napredak sudionika i učinak projekta na lokalnu STEM zajednicu. Projekt je uspio u svim planiranim ciljevima, a postignuti rezultati vidljivi su na više razina.

3.1 Održane radionice i broj sudionika

Tijekom projekta održano je šest pripremnih radionica te jedna završna simulacija natjecanja. U radionicama je sudjelovalo više od dvadeset mladih u dobi od osam do osamnaest godina. Sudionici su dolazili iz različitih razreda osnovnih i srednjih škola, što je stvorilo raznoliko okruženje u kojem su mlađi imali priliku učiti od starijih, a stariji razviti vještine vodstva i mentoriranja svojih vršnjaka.

Radionice su omogućile sustavan i postupan rad, gdje je svaki sudionik mogao napredovati prema vlastitim mogućnostima. Kroz praktične zadatke i timski rad učili su rješavati tehničke probleme, programirati, testirati rješenja i analizirati rezultate.

3.2 Jačanje tehničkih i programerskih vještina

Sudionici su tijekom priprema usvojili znanja iz područja programiranja, robotike, elektronike i primjene umjetne inteligencije. U kategoriji RoboMission Junior postignut je značajan napredak prelaskom na Python, što je mladim robotičarima omogućilo izradu stabilnih i složenijih algoritama za autonomno kretanje robota.

U kategoriji Future Innovators Senior sudionici su razvijali potpuno funkcionalan inovacijski projekt koji je uključivao elemente dizajna prototipa, elektronike, mehanike, senzorske tehnologije i obrade slike. Mladi su ovladali radnim postupcima koji se koriste i u profesionalnim inženjerskim projektima, što im daje vrijednu prednost u daljnjem obrazovanju.

3.3 Uspješni nastupi na europskoj i svjetskoj završnici

Formirana su dva natjecateljska tima Kluba tehničke kulture Lipovljani koja su predstavljala Hrvatsku na međunarodnim WRO završnicama.

LipBots RM – RoboMission Junior osvojio je drugo mjesto na Europskom WRO prvenstvu u Sloveniji. Njihov nastup obilježen je maksimalnim brojem bodova i najbržim vremenom prvog dana natjecanja, što pokazuje visoku razinu tehničke pripremljenosti i odličnu stabilnost robota.

LipBots – Future Innovators Senior zauzeo je 31. mjesto od 74 najbolje ekipe svijeta na Svjetskom WRO prvenstvu u Singapuru. Projekt PoseiDron privukao je pozornost međunarodnih timova i mentora zbog svoje praktične vrijednosti i inovativnog pristupa rješavanju ekoloških izazova.

Oba tima ostvarila su iznimno vrijedno međunarodno iskustvo i pokazala sposobnost snalaženja u različitim natjecateljskim formatima.

3.4 Izrada materijala i jačanje resursa za buduće projekte

Projekt je rezultirao izradom edukativnih materijala, tehničkih uputa, radnih zadataka i dokumentacije koju će Hrvatski robotički savez koristiti u budućim pripremanjima i radionicama. Sudionici su, uz podršku mentora, samostalno izrađivali kod, dokumente i 3D modele, čime je stvoren čvrst temelj za daljnji razvoj programskih i tehničkih aktivnosti Saveza i Kluba.

3.5 Suradnja s lokalnom zajednicom i STEM promocija

Kroz projekt je ojačana suradnja mentora, roditelja, i lokalnih organizacija u Lipovljanima. Uspjeh timova povećao je interes za robotiku i STEM aktivnosti, što je vidljivo i kroz porast upita o budućim radionicama i programima. Klub tehničke kulture Lipovljani dodatno je učvrstio svoju poziciju kao mjesto okupljanja mladih kreativaca i inovatora.

4. Promocija i vidljivost

Projekt je tijekom provedbe bio aktivno promoviran kroz kanale Hrvatskog robotičkog saveza, Klub tehničke kulture Lipovljani i lokalne medije. Redovite objave na društvenim mrežama prikazivale su pripreme timova, rezultate radionica i proces stvaranja projekata, čime je projekt postao vidljiv široj zajednici i potaknuo veći interes za STEM aktivnosti. Sve radionice i pripremne aktivnosti registrirane su na službenoj EU Code Week karti, čime je projekt dobio prepoznatljivost na europskoj razini.

5. Evaluacija i zaključak

Sudionici i mentori izrazili su visoko zadovoljstvo kvalitetom radionica, načinom rada i organizacijom priprema. Kroz sve faze projekta vidljiv je bio kontinuirani napredak sudionika, kako u tehničkim vještinama tako i u samostalnosti, timskoj komunikaciji i sigurnosti u rješavanju problema. Posebno je istaknuto da su natjecatelji preuzeli odgovornost za većinu praktičnog rada: programiranje, izradu 3D dijelova, tehničku dokumentaciju i testiranje prototipova. Ovakav pristup potaknuo je njihovu kreativnost, samopouzdanje i motivaciju za daljnji razvoj u STEM području.

Uspjesi na europskoj i svjetskoj završnici pokazuju da su pripreme bile kvalitetno planirane i provedene. Tim LipBots RM ostvario je izvanredan rezultat osvajanjem drugog mjesta u Sloveniji, dok je tim LipBots predstavio inovacijski projekt PoseiDron i postigao vrijedno 31. mjesto u jakoj svjetskoj konkurenciji u Singapuru. Osim rezultata, važan doprinos projekta je i iskustvo koje su mladi stekli kroz susrete s natjecateljima iz različitih zemalja, razmjenu ideja i uvid u širok spektar robotičkih rješenja i pristupa.

Projekt je ostvario sve planirane ciljeve i potvrdio važnost ulaganja u rano poticanje digitalnih i tehničkih vještina. Ojačana je suradnja između mentora, Kluba tehničke kulture Lipovljani i lokalne zajednice, a stvoreni su i novi resursi koji će služiti kao temelj za buduće projekte. Mladi robotičari pokazali su da mogu ostvarivati vrhunske rezultate kada im se pruži prilika za kvalitetan rad i podrška.

Projekt je tako pridonio razvoju nove generacije mladih inovatora, potaknuo interes za STEM područje i dodatno učvrstio ulogu Hrvatske u međunarodnoj robotičkoj zajednici.

