

SEMI-ANNUAL REPORT

1 July 2020 – 31 December 2020

Increasing Market Employability Program

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Table of Acronyms

APST	Agency for Promotion and Support of Tourism
ATSP	Adventure Tourism Service Providers
A2F	Access to Finance
B2B	Business to Business
B2C	Business to Customers/Consumers
BDSP	Business Development Service Provider
BEP	Business Ecosystem Project
BSO	Business Service Organization
C4D	Communication for Development
“Doma si e doma”	“No place like home” campaign
DMO	Destination Management Organization
EU	European Union
FITD	Fund for Innovations and Technology Development
FTE	Full-time Equivalent
FVA	Food and Veterinary Agency
GIS	Geographic Indicator System
GIZ	German Corporation for International Cooperation
GONM	Government of North Macedonia
HORECA	Hotel/Restaurant/Café
HR	Human Resources
ICT	Information and Communications Technology
IME	Increasing Market Employability Programme
LRCP	World Bank Local and Regional Competitiveness Project
FINKI	Faculty of Computer Science and Engineering
MAFWE	Macedonian Ministry of Agriculture, Forestry and Water Economy
MASIT	Chamber of Commerce for Information and Telecommunication Technology
MAP	Macedonian Association of Processors
MSMEs	Micro, Small and Medium Enterprises

MOE	Ministry of Economy
MTB	Mountain biking
NAITM	National Association for Incoming Tourism of Macedonia
NEA	National Extension Agency
P4P	Pay for Performance
SDC	Swiss Agency for Development and Cooperation
SIPPO	Swiss Import Promotion Programme
UCI	Union Cycliste Internationale
VC	Value Chain
WOM	Wines of Macedonia

Strategic Review and Outlook

This report covers the period from July 01 to December 31, 2020 which resulted in support for creation of 130 jobs, increased individual incomes by CHF 1,187,300 and increased firm incomes by CHF 317,670. The devastating impact of COVID-19 continued to affect IME partner firms, particularly in the Tourism Sector. The table below presents IME's achieved results for the impact-level indicators.

IMPACT					
Overall Goal	Indicator	1 st Half 2020	2 nd Half 2020	Annual Target 2020	Cumulative ¹ 2019,2020
More unemployed and underemployed, in particular youth and women, are engaged in sustainable, decent employment or self-employment and/or are earning higher incomes. (youth disaggregation for ages 15-24 and 20-29)	Number of full-time equivalent (FTE) jobs supported (#) [DCED Standard Indicator]	82 FTEs - 29 direct - 53 indirect	130.2 FTEs - 50.38 direct - 79.82 indirect	241 FTEs - 110 direct - 131 indirect	274.6 FTEs - 119 direct - 155.6 indirect
	<ul style="list-style-type: none"> Target: additional 2,706 FTE jobs are filled, of which at least: 1,080 are direct. 648 (60%) direct jobs are filled by youth (ages 19-29) 486 (45%) direct jobs are filled by women. 659 (direct + indirect) jobs are filled in Sustainable Agriculture (SA). 1,245 (direct + indirect) jobs are filled in Adventure Tourism (AT). 802 (direct + indirect) jobs are filled in ICT. Baseline: 1,600 jobs, 50% youth, 38% women 	50.33 youth (61%) 47.21 women (57.5%)	64.18 youth (51.61%) 61.34 women (49.33%)	145 youth 108 women	142 youth (51.8%) 138 women (50.22%)
		SA: 20 - 8 direct - 12 indirect AT: 32.5 - 9 direct - 23.5 indirect ICT: 29.5 - 12 direct - 30.21 indirect	SA: 90 - 36 direct - 54 indirect AT: 16.2 - 4.38 direct - 11.82 indirect ICT: 24.3 - 10 direct - 14.3 indirect		SA: 156.71 - 76.59 direct - 80.12 indirect AT: 51.7 - 14.31 direct - 37.43 indirect ICT: 66.53 - 26.93 direct - 39.6 indirect
	Change in individual income (#) ² [DCED Standard Indicator]	CHF 281,727.76	CHF 1,187,300 - Youth: CHF 615,021 - Women: CHF 596,262	CHF 2,300,000	CHF 1,469,027
Change in income of CHF 2 million for firms.	CHF 167,112	CHF 317,669.57	CHF 177,600	CHF 484,781.56	

IME started the year with eight ongoing interventions, but later merged two separate interventions for fresh and processed agriculture products into one more comprehensive agribusiness intervention leading to increased jobs and sales in the same sector. The project continued working with 13 current partners and has added six additional co-founding partners under the Opportunity Fund, seven business service organization (BSO) partners and two partners through the Challenge Fund. The implementation of partnership agreements containing traveling abroad were modified, postponed, or replaced. New projects that began in the second half of the year faced great uncertainty from the market; companies reorganized their business models to better align with present circumstances. IME updated sector strategies to reflect the impact of COVID-19. Based on internal calculations, financial reports, and feedback from the sector partners given during the Annual Planning session in October, IME revised its target indicators for 2020.

¹ The Cumulative figures include results from the start of IME phase II, August-December 2019, January – June 2020, and July – December 2020.

² Individual Income is taken from new employments salaries (CHF 737,406), individual suppliers' income (CHF 168,167.7), and carryover (CHF 281,727) from salaries paid in IME jobs created in the first half of 2020 (CHF

At the impact level, IME revised the projected annual employments target – from 325 full time equivalent jobs (FTEs) to 241 FTEs – as IME anticipated 74 less jobs (20 direct and 54 indirect) to be achieved in adventure tourism due to COVID-19. Subsequently, the 26 percent decrease in number of jobs anticipated resulted in a pro rata decrease in net additional income change targets – both at the individual and company levels – reducing them from CHF 3,120,000 to CHF 2,300,000, and from CHF 240,000 to CHF 177,600, respectively. IME revised Outcome 2 targets of planned number of firms and individuals obtaining financial services and in terms of the planned number of financial services obtained. This indicator was reduced from 30 companies or individuals (of which six are women-owned or managed) expected to obtain financial services to 20 companies (of which four are women-owned or managed), decreasing the total amount of modified services from CHF 4,800,000 to CHF 3,000,000.

Nevertheless, while some companies were challenged to retain their liquidity and keep the operations running under COVID-19 preventive measures, several IME partners demonstrated greater ability for transformation and resilience, thereby using the limitations of the pandemic to their favour. Thanks to IME's co-investments, companies remained agile and sustained their links with buyers and backward linkages with their suppliers. IME helped agribusiness companies introduce new technology, as well as develop and promote new branded products on the market. IME upgraded functionalities of online platforms for information and communication technology (ICT) companies.

While IME's impacts achieved during the reporting period, as summarized in the table above, is lower than initially expected and projected by the end of 2020, they exceed the October amended targets thereby confirming IME's focused efforts to help companies mitigate losses from COVID-19 were well designed and executed. Despite market turbulences and challenging situations, all IME-supported companies kept all current employees, which was most challenging for tour operators that lost between 75-90 percent of their expected annual revenue. Several fast-growing companies in agribusiness, ICT, and adventure tourism generated better-than-expected income while creating 50 new formal jobs, totalling 130 direct and indirect jobs in the reporting period and 241 jobs altogether in 2020.

IME's total number of FTE jobs created by the end of 2020 reached 275 (15.4 percent less than initially estimated) including 119 direct and 156 indirect jobs. Among the new employees, 142 (51.8 percent) are young people and 138 are women (50.22 percent), thereby proving progressive, innovative firms offering inclusive job opportunities are attractive to women and youth even in the agriculture and tourism sectors, not only in the ICT sector. Please see Annex 5 for full log-frame indicators table.

Companies' challenge to protect jobs while confronting reduced income and questionable future growth resulted in moderate individual income increases of CHF 1,187,300, reaching an aggregate of CHF 1,469,027 or 65 percent of IME's annual target. In uncertain times, companies are reluctant to offer salaries increases. Also, most new jobs supported by IME interventions were created in the last quarter of the year, thereby contributing to individual income increases being lower than expected. Moreover, though the average monthly salary in the ICT sector is close to CHF 1,000, new IME-supported employees hold mostly junior positions with salaries in the range of CHF 500-600.

Additionally, the Government of North Macedonia (GONM) adopted IME-supported policies, leading to a better business environment. As such, rural farmers more easily registered to sell their processed products from the farm gate and several tax exemptions for ICT companies

enabled increased investments in domain knowledge and new products, which ultimately led to sustainable sector growth and additional jobs.

Chapter 1: Introduction

IME continued detecting key sector deficiencies that prevent growth and supporting interventions leading to sustainable systemic change within selected sectors. The Program co-invested with proactive private anchor companies in piloting effective business models or innovations for strengthening competitiveness, expanding on domestic and international markets, and creating better and more inclusive jobs. In parallel, IME enhances the business support ecosystem by creating linkages between business development service providers (BDSPs) and companies, thereby enabling firms to access additional finance and upgrade their processes through adoption of advanced standards and certificates.

IME prepares companies for further growth by resolving critical impediments and enabling better business conditions for creating sustainable, decent employment or self-employment opportunities. Through working with the most relevant BSOs, IME assists multiple sector actors to either improve business proficiency, competitiveness, and access to new markets, or to better articulate problems, establish dialogue with the relevant public institutions and propose effective policy changes.

As expected, the summer season showed a drastic decline in the number of international arrivals and tourists. The number of registered tourists in 2020 was 467,514, a 60.5 percent decrease from 2019 (1,184,963 tourists). Naturally, arrivals of foreign tourists decreased by 84.4 percent whereas the number of domestic tourists decreased by 18.3 percent. Several incoming tour operators halted business operations during summer, with only a few continuing to offer products to domestic tourists. On the other hand, accommodation facilities showed relatively better results during the summer season particularly due to the “Doma si e doma” voucher scheme, whereby accommodations were subsidized by the state, and lack of other summer holiday options due to border closings with Greece and Bulgaria. As a result, the number of overnights spent at tourist locations by domestic tourists in July 2020, decreased by only 6.3 percent, compared to July 2019.

Difficulties organizing processes in compliance within COVID-19 prevention measures resulted in 36.4 percent less agribusiness exports compared to the same six-month period in 2019. Companies struggled to organize large numbers of seasonal harvesting and processing workers according to the prescribed distance between workers. Buyout and distribution of fresh produce was additionally burdened. While the supply of food in the European Union (EU) has held up well to date, the supply of agro-food products to markets is becoming increasingly preconditioned by standards and packaging to guarantee safe products with minimal logistic manipulation.

Broad-based digitalization has helped organizations to combat COVID-19, thus creating new growth opportunities for ICT companies. Lockdowns accelerated digital transformation in country while adoption of digital solutions and e-commerce became more obvious in the second half of the year. Several sectors are innovating due to the pandemic, such as online booking and promotion platforms and virtual tours to attractive destinations in the tourism sector. As more EU clients are open to engaging remote ICT consultants whose daily fees are lower than their western EU colleagues, new opportunities arise for Macedonian ICT companies and professionals as COVID-19 continues. Companies have a strong need for business model modifications to become more resilient and susceptible to changes.

Chapter 2: Outcomes Achieved for 2020

Outcomes achieved in 2020 are presented in the table below, as well as the cumulative results achieved for both 2019 and 2020. IME did not have annual targets for 2019, however cumulative results achieved are reported against 2020 targets.

Outcomes Achieved					
Overall Goal	Key Indicators/ Targets	1 st Half 2020	2 nd Half 2020	Annual Target 2020	Cumulative ³ 2019,2020
Outcome 1: Companies in the selected sectors grow by improving products and services and expanding markets.	Increase in (aggregated) sales volume of beneficiary SMEs (%) (outcome) [CH-cooperation strategy indicator (2.1)] <ul style="list-style-type: none"> Anchor firms will increase revenues and/or productivity by an average 20% over life of project 	58% increase in sales reported	31.25% % increase in sales ⁴	2.5%	44.6% of actual sales by anchor companies
	<ul style="list-style-type: none"> Supplier firms will increase revenues or productivity by an average 10% over life of project 	CHF 487,355.88	CHF 916,623.48	1.2% N/A	CHF 1,403,959.5 ⁵
	<ul style="list-style-type: none"> 250 companies (anchors or suppliers) introduce new technologies, innovations, standards, or business practices; or add new or upgrade products and services. Baseline: CHF 6.3 million 	25 Companies	45 companies	50 companies	98 companies (anchors or suppliers) introduce new technologies, innovations, standards or business practices
Outcome 2: Improved services and improved policy and regulatory framework are conducive to companies' growth in the selected sectors.	Number of firms or individuals that utilize business development services (#) (outcome) [DCED Standard Indicator] <ul style="list-style-type: none"> Number of individuals that utilize business development services. 	N/A	460	N/A	460 individuals that utilize business development services
	<ul style="list-style-type: none"> 500 companies utilize new or improved BDSP services to improve competitiveness, at least 75 of which are women-owned or managed. Baseline: 0 	168 companies, out of which 33 are women-owned or managed (20%)	45 companies of which 5 are women owned or managed	50 companies with 9 women led.	229 companies, of which 42 are women owned or managed.
	Number of firms or individuals that obtain financial services (#) (outcome) [DCED Standard Indicator] <ul style="list-style-type: none"> Target: 250 companies access financing or funding, at least 50 of which are women-owned or managed Baseline: 102 	8 Company with Access to Funding	10 companies with A2F, out of which 1 are women owned and managed.	20 companies, out of which 4 are women.	19 companies out of which 3 are women owned or managed
	Amount of financial services obtained (CHF) (outcome) [DCED Standard Indicator] <ul style="list-style-type: none"> Target: CHF 40 million in financial services obtained (received) by direct or indirect 	CHF 1,008,000	CHF 2,852,492 ensured in financial services.	CHF 3,000,000	CHF 4,018,492 Ensured in financial services to date

³ Cumulative figures include results from the start of IME Phase II: August – December 2019, January – June 2020, and July – December 2020.

⁴ Percentages are indicative of the sustainable agribusiness and ICT sectors. Expectedly, the adventure tourism sector does not record increase in sales. The percentage represents a weighted average of micro, small, and medium enterprises (MSMEs) from both sectors, each with a varying degree of sales increase.

⁵ The sum is an aggregation of IME attributable contribution in the IME partners' value chain. Due to the heterogenous and defragmented nature of the value chain, the sum will be used as a baseline for a 10 percent increase target of increased revenues or productivity to be achieved by the end of the Project.

	beneficiaries - firms or Individuals - as a result of an intervention from financial institutions. ○ Baseline: CHF 952,549				
Outcome 3: Companies provide more attractive and inclusive working conditions for employees, particularly youth and women.	Increase in employment of women and youth in target sectors (%) (outcome) [Custom indicator] ○ Target: 20% increase in the employment of women and youth in supported companies ○ Baseline: TBD, baseline collected as firms become IME2 partners ⁶	12% for women 17% for youth	6.63% for women 11.61% for youth	2.4% increase	9.3% for women 14.3% for youth

2.1 Outcome 1: Companies in Selected Sectors Grow by Improving Services and Expanding Markets

IME supported 45 companies upgrading their technologies or business practices and adding new or upgraded products and services, for a total of 98 companies supported since the beginning of the Project. Although the adventure tourism sector did not record a sales increase for the second half of 2020, supported anchor firms across all three sectors increased sales by 31.25 percent, totaling a 44 percent increase in 2020 compared to 2019. Suppliers to anchor firms across all three sectors increased their sales by CHF 916,623 in the reporting period, or by CHF 1,403,956 in 2020.

After border closings, IME-supported tour operators, agencies and local tourism service providers remained agile and willing to adapt, understanding the importance of attracting domestic tourists. Therefore, they redirected their efforts and generated revenue during the summer season. Although initially projected to achieve CHF 787,452 in revenue during 2020, IME tourism partners achieved only CHF 142,436 this year. Furthermore, several anchor companies like JJ Adventures Hotel Scardus and Mountain Solutions' introduced new products and increased summer sales. In December 2020, presence of regional tourists at Ski centres suggests relatively good 2020/2021 winter season. Balkan Prime and Touring Macedonia developed new business to customers/consumers (B2C) platforms whereas Panorama, Mountain Solution, and Popova Kula postponed activities considering pandemic challenges.

Various IME agribusiness partners adopted innovative production technologies and introduced new market-oriented products. With IME's assistance, Lazar winery, Agrar Ko, Lars, Food Bar and Aronia Zdrava Hrana released new added value branded products and entered or expanded on new export markets in the region and EU. As a result of the market linkages with Greenyard Group⁷, Hortena successfully organised the first pilot glasshouse production of hybrid pepper for fresh consumption and exported its first six trucks to Greenyard, Germany with a total value of CHF 130,827. Vittoria Fruit continued exporting premium seedless grapes to the EU. With the new investment, Food Bar decreased production losses by 10-12 percent, and doubled their sales from last year reaching CHF 386,000.

IME-assisted anchor companies increased number of suppliers and purchased additional fresh produce from farmers in the value of CHF 916,623. Support to organic agriculture continued

⁶ Baseline data collected from five firms show that out of 112 employees, 48 (42.7 percent) are women, 45 are youth (40 percent). The increase reported is based on the new employments in the IME anchor companies.

⁷ <https://www.greenyard.group/>

through Nelkoski and Lipa. IME supported B2B meetings at an Organic Table event and started a new project with Dobra Zemja, a consolidator and distributor of variety of fresh organic products for the domestic market.

In the ICT sector, with IME support INS increased income by 15 percent and, grew from 55 to 70 employees over 2019. MAGIX.ai upgraded their banking chatbot and Pixyle got 10 new clients for “visual similarity recommendation” tool generating new revenue of CHF 36,000 from subscription in 2020. Due to restrictions, Web Factory experienced delayed market expansion to Japan. Inteligenta employed five engineers to work on the AuditSSH product and an operations manager.

2.2 Outcome 2: Improved Services, Improved Policy and Regulatory Frameworks are Conducive to Companies’ Growth

During the second half of 2020, 45 IME-supported companies (of which five are women-owned or managed) utilized new or improved BDSP services to improve competitiveness across all sectors and through all instruments.

IME's pay-for-performance (P4P) intervention achieved tangible results across all sectors in this reporting period. IME access to finance consultants supported 10 companies access a total of CHF 2,700,000 from commercial banks and non-financial institutions. BDSP reported that, due to COVID-19, opportunities to access funds decreased; many companies were reluctant to take loans unless they were COVID-19-related grants or national measures.

As the certification services in the ICT sector remained in high demand, eight companies were certified for ISO standards in ICT sector. After adoption of one standard with IME support, many companies additionally invested in implementing other standards, thus improving export competitiveness. Despite COVID-19, certification bodies in the ICT sector reported greater demand by companies and a three percent revenue increase.

In sustainable agriculture, nine companies acquired certification, eight of which were for organic production on a total of 98.4 hectares of land. Due to certificates, the fruit and vegetable companies Atlantik, Agropod, AJ United entered and expended sales on new export markets. BDSP Balkan Biocert increased demand for organic production and increased revenue by 15 percent due to cooperation with IME.

IME facilitated BSOs to implement policy reform in both the ICT and sustainable agribusiness sectors. The ICT Chamber of the Macedonian Association of Information Technology (MASIT) drafted a position paper for policy reforms and successfully lobbied for several important tax exemptions for ICT companies.

Following successful adoption of the Flexibility Rulebook for small producers of non-animal origin products, IME supported a three-party cooperation among Slow Food, Impact Foundation and Women in Tech to help 20 small producers improve their business models, promotion and marketing of their products. WOM's second World Vranec Day's virtual format engaged a greater and more diverse audience than last year and was well- promoted on social media and foreign magazines, such as Vinum and ProWine.

During Global Entrepreneurship Week, IME engaged Startup Macedonia to coordinate two ICT company pitching events before potential tourism and agribusiness clients. EmbedSocial and

AgFutura presented their solutions to 45 companies that attended the online event and offered six months of complimentary digitalization services to two tourism companies and two agribusinesses. IME proactively linked three ICT companies with the two Centers for balanced regional development and 25 municipalities for possible cooperation concerning the EU delegation call for applications for digitalization of municipal services and innovations.

2.3 Outcome 3: Companies Provide More Attractive and Inclusive Working Conditions for Employees, Particularly Youth and Women

IME-supported companies reported a 6.63 percent increase of women employed and 11.61 percent increase in youth employment. Women filled 49.33 percent of the jobs created, while youth occupied 51.61 percent. Women obtained decent jobs as software engineers and marketing and client management experts, while youth were employed in positions as junior programmers, marketing and sales associates, workers in production, packing and distribution of food products.

IME supported Vita Institute's employer branding training and mentorship program design and delivery to help seven ICT companies better attract and retain women and youth employees. Through the Student Parliament at FINKI, IME supported two hack-a-thons, one for ICT in tourism and another for ICT in agriculture. IME matched students from four faculties (Faculty of Agriculture, Tourism, FINKI and Faculty for Informatics) with companies from the agribusiness and tourism sectors.

Several partner companies introduced more favourable working conditions for employees that led to more decent work. With the automatic unloader of peppers, workers in Fruktana are not manually loading bags and crates of peppers; instead, they work on inspection of product quality. Company Agrar Ko employed a young woman as sales manager and provided on-the-job mentoring and invested in online trainings related to her job requirements.

Chapter 3: Outputs and Performance According to Annual Plan

To achieve Outcome 1: Companies in the selected sectors grow by improving products and services and expanding markets, IME delivers and monitors performance through two outputs.

Output 1: Co-invest with firms in supply chains to strengthen their linkages with and the capacity of suppliers

IME signed six new partnership agreements with companies, co-investing through the Opportunity Fund, to strengthen competitiveness and expand their supplier networks. Furthermore, almost all BSO contracts also included a strong focus on strengthening linkages with – and the capacity of – suppliers. As a result of the co-investments, Food Bar, Lazar Winery, Agrar Ko, Lars and Aronia Zdrava Hrana purchased fresh fruits and vegetables from more than 50 additional farmers suppliers. IME also worked with 11 additional farmers from the Eko Leshnik association to introduce Bio Suisse's standard for securing supply of organic hazelnuts to Nelkoski Organic for the European market. Five of Lipa's partnering farms started producing organic seeds so more farmers with more hectares can produce organic beans next year. By building cold storage capacity and providing training in organic production Dobra Zemja will secure buyout and a direct link to domestic markets for 30 new organic farmers.

In tourism, strengthened linkages with capable suppliers are essential for creating attractive itineraries and credible offers to potential tourist agencies and independent tourists. With IME's

co-investment Hotel Scardus engaged certified tour guides from Shar Outdoors to lead e-bike tours. Improved service contributed to increased sales during the shoulder seasons (summer to autumn). IME's Challenge Fund supported service providers Hostel Kitka and Zingiber were linked and promoted to four inbound tour operators. New canyoning products of Mountain Solution company will enrich the rural region of Mariovo. Balkan Prime and Touring Macedonia developed B2C platforms to access the independent travellers' market, while Mountain Experience introduced e-bikes for the 2021 summer season, thus including many other local service suppliers into their supply chains.

When approaching larger new projects, ICT companies collaborate in consortiums or outsource specific skills for software development functions. INS, MAGIX.ai and Pixyle continued to collaborate with their suppliers of specialized services and thus have the optimal use of their internal resources. Web Factory explored a possible partnership with other Macedonian companies interested in regional promotion.

Output 2: Facilitate private sector alliances of firms and other market actors to undertake and co-fund initiatives to resolve sector-wide challenges

Following the COVID-19 protocols, IME supported the recently established Chamber of Organic Producers to build a website for online registration and organize an open trade fair event called "Organic Table".

Co-funded by all participating wineries, World Vranec Day event was organized to overcome obstructed promotion of Macedonian wine abroad and ensure buyout of grapes next season.

Through online mentoring by the Swiss sport consulting company GFC, IME supported the alliance in Krusevo (led by Resort Panorama) in preparation of the MTB treks; the alliance led by OFF ROAD association for rural tourism for creating six self-guided audio tours.

Output 3: Strengthen supply and demand of BDSPs to provide value-added services for systemic growth in selected sectors

IME continued work with the pool of 20 contracted BDSPs. Some of them proved to be more active and motivated in providing wider business development services, including international funding initiatives, to the private sector. Others are more focused on assisting companies acquiring traditional bank loans and government funds. Despite COVID-19, IME held regular talks with consultants. BDSPs noted the low effectiveness of calls for funding and the execution of the public support programs. Consultants' feedback will be taken into consideration for future adaptation of the P4P instrument and future initiatives toward upgrading government funds for sector support programs.

IME continued working with BSOs on developing support services for systemic growth in all three sectors. Through Asklepij, 18 new ski patrollers were trained, and their services will be utilized by domestic ski centres in Mavrovo and Shara Mountain.

Output 4: Strengthen capacity for advocacy and public-private dialogue on issue-driven reform action plans for key issues within target sectors

Lessons learned from the IME supported pilot project to guide 20 small farms through the registration process will be integrated into the bylaw defining the technical details of the support

measure for agribusiness start-ups to register according to the Flexibility Rulebook, announced by MAFWE. Moreover, the Macedonian Association of Processors (MAP) used IME-supported sector studies to advocate for adjustments in the national policy to create a more favourable environment for the processed fruits and vegetables sector growth.

IME assisted MASIT, to develop a policy paper opening policy dialogue resulting in significant issue-driven reforms and adoption of significant tax exemptions for ICT employees, starting January 1, 2021. These reforms will incentivise ICT companies to invest more in their workforce and create more well-paying jobs for young people.

Output 5: Promote human resource management capabilities within private sector to create decent work opportunities and value diversity in the workplace

Effective HR management can determine the success or failure of any company. This is especially the case for the ICT sector, where demand for ICT professionals is higher than the supply. IME worked with the VITA Institute BSO to create and deliver a specialized training module for ICT companies on improving HR policies and mentorship with coaching in employer branding. All participating companies started introducing new practices for employer branding, employee recruitment, motivation and talent management. Additionally, in October 2020, IME supported 10 ICT HR managers attend an online international employer branding conference. Based on what they have learned, nine companies implemented new policies and practices targeting existing and potential employees with special focus on women and youth.

Output 6: Link and create private sector partnerships with formal and informal training providers

IME supported an online job fair to increase employment opportunities among students. Marketing expert and career advisor provided guidance to 125 students on how to prepare CV or digital portfolio, as well as discussing job interview soft skills. In addition, IME connected four student organizations from the FINKI, Faculties of Agriculture, Tourism and Informatics to collaborate in organizing two hack-a-thons. The hack-a-thons resulted in 10 innovative ICT solutions applicable in agribusiness and tourism sectors.

Chapter 4: Finance and Management

IME's project implementation outlines spending most available funds in 2020. However, due to COVID-19, part of the administrated project funds was committed, accrued and will be paid in the beginning of 2021. The yearly financial report and comments on spending variances are submitted as a separate document. The average percent of co-investments by private sector partners for 2020 is as the following:

	IME Contribution	%	Private Sector Contribution	%
ICT	CHF 70,070	46	CHF 81,250	54
Adventure Tourism	CHF 128,446	49	CHF 135,554	51
Sustainable Agriculture	CHF 168,308	38	CHF 275,611	62
Total:	CHF 366,823	43	CHF 492,415	57

As planned under the contract, IME experienced a smooth transition at the Team Leader position from Dina Karic to Goran Damovski. Simultaneously, Business Services and Enabling Environment Lead Tanja Georgievska took on the Deputy Team Leader position and will continue

overseeing the Business Services and Enabling Environment portfolio in addition to her new responsibilities.

IME's Communications portfolio was integrated in the existing sector strategies of the Program. IME introduced Communication for Development (C4D) as a more integrated approach and a tool to achieve and articulate the Program's interventions and objectives. C4D is an interdisciplinary activity in project management; it promotes social and political transformation through interpersonal communication, community media, and modern information technologies.

IME has actively communicated interventions and activities with the public. During this reporting period: approximately 100 posts were published on social media, predominantly IME's official Facebook page, with an average reach of about 1,300 users per post. All reach is organic, as IME does not use paid content; around 80 media articles were published in local media outlets to announce or report on project-related events; in collaboration with respective partners, IME organized and/or supported seven in-person and more than 10 online events. Most activities in the Annual Plan were achieved or are in progress. Annex 4 provides more details.

Chapter 5: Lessons Learned

Good practices and innovations. Thirteen tourism stakeholders and companies in Demir Kapija started promoting an integrated tourism offer which includes rock climbing, kayaking, biking, cultural tourism, wine tasting, traditional food, and accommodation facilities. Also, IME supported short video compilation, North Macedonia was presented as an adventure tourism destination on Lonely Planet under the "Daydreaming During the Lockdown" series. IME shared the promotional materials created for the "Doma si e doma" campaign with the National Association of Incoming Tourism of Macedonia for further tourism promotional use.

Food Bar's modern packaging innovations resulted in a remarkable boost in sales. Utilization of neuromarketing in rebranding will create a breakthrough in the market for Agrar Ko. Innovative products developed by ICT companies distinguish them from competitors internationally. Companies and BSOs in agribusiness quickly adjusted some of their sales and promotional activities to online events and platforms.

Synergies among the Swiss Agency for Development and Cooperation (SDC) projects and interagency collaboration. IME and E4E complemented each other on creating more sustainable solutions for the country biking destinations. IME worked together SDC's Nature Conservation Program on drafting scenarios and field logistics for "Doma si e doma" videos for Berovo and Pechevo. IME and the Swiss Import Promotion Programme (SIPPO) started a rapid assessment in tourism assessing the tourism demand and supply and identifying a specific post-COVID-19 plan of action to support the tourism sector. IME and Startup Macedonia signed a memorandum of understanding (MOU) for cooperation in digitalization of the tourism and agriculture sectors and access to markets. IME and the French Embassy cooperated on promoting N. Macedonia as an emerging rock-climbing destination.

Obstacles and difficulties. Overall, companies in IME's chosen sectors are not strategic, have low business proficiency to invest in new products and better market exposure and are not willing to develop more inclusive supply chains. Moreover, because of COVID-19, many tourism companies remain in "safety mode". IME noted that businesses request support to invest mainly in equipment (tangible assets) or to subsidize employee costs.

Annex 1: COVID-19's Impact on Adventure Tourism Intervention

The trend of banning tourism activities on a global level continued in the second half of 2020. As a result, global estimations are that the travel and tourism sectors will lose approximately \$1,300,000,000,000⁸ in revenue (nine times more than the 2009 crisis) and around 200 million jobs will be lost. Assumptions are that first signs of recovery will be in summer 2022, with predictions that tourism will not return to the 2019 level until 2024.

These global trends are reflected in North Macedonia as well, with a huge impact on the tourism sector and the business operations of tourism stakeholders in the value chain.

Tour Operators

Most incoming tour operators stopped working and were waiting for border openings. Several 2019 trips or groups were completely cancelled with a portion being rescheduled for spring/summer 2021. For example, KTM Voyage has 40 groups from the Netherlands that are rescheduled for April 2021, but the arrivals will depend on EU travel regulations. Currently, North Macedonia is in the so called "COVID-19 orange zone" that will require quarantine for tourists when they will return to the Netherlands. Few incoming tour operators are changing their business operation model. Balkan Prime and Touring Macedonia developed B2C platforms, Enjoy Balkans started selling packages for domestic tourists and Mountain Experience purchased new e-bikes and are preparing new offers for domestic tourists for the summer 2021 season.

Adventure Tourism Service Providers (ATSP)

Smaller ATSPs started to work with domestic tourists. Shara Outdoors, Hotel Scardus, Resort Panorama, JJ Adventures and Mountain Solution developed products for domestic customers and are preparing packages for the summer 2021 season, focusing on domestic and regional tourists.

Accommodation Facilities

Accommodation facilities in Ohrid, Struga, Mavrovo and Shara Mountain showed relatively better results during the summer 2020 season due to the "Doma si e doma" voucher system whereby accommodation was subsidized by state and lack of regional competition (e.g., Greek border was closed). They also expect that the summer 2021 season will depend on domestic and regional tourists, particularly from non-EU countries such as Albania and Serbia.

Tour Guides

According to the National Association of Tour Guides, over 300 tour guides lost their full time or seasonal work arrangements or contacts due to travel restrictions. In the first half of 2020, IME's partners reported approximately € 9,228,000 in sales, a loss equivalent to 377 direct jobs at the affected companies and an additional loss of 1,018 indirect jobs in their value chains. IME's annual data collection and interviews conducted with more than 20 tourism stakeholders showed that the trend of losses continued with severe decreases in sales. Consequently, IME's projected targets to create 111 direct and indirect jobs in 2020 and increase in sales of tourism market actors by CHF 787,452 will not be achieved.

⁸ <https://www.unwto.org/news/2020-worst-year-in-tourism-history-with-1-billion-fewer-international-arrivals>

How IME Responded to COVID-19

IME's is improving competitiveness of the anchor companies and their value chain through new product development and improved market access. For that purpose, IME is working with stakeholders to improve adventure tourism offers and encourage linkages between market actors to diversify product offerings. Additionally, IME's second intervention pillar focuses on market access and promotion. That includes utilization of traditional promotional tools (e.g., fairs, B2B), improving tour providers' online marketing presence targeting independent travelers and encouraging business alliances for improved destination promotion.

In March 2020, when COVID-19 crises started, the country went into lockdown, as most of the world, IME's tourism partners expected that bookings and tourist groups' arrivals would only be postponed until June 2020. Unfortunately, the trend of cancellations increased and continued in the second half of the year; by the end of summer, very few international tourists arrived in the country.

IME's first point of action was to continue building the product offers for the post-COVID-19 period. To achieve that, IME continued establishing new partnership with adventure tour providers in the second half of 2020. In Shara Mountain, contracts for co-investment were finalized with Hotel Scardus for expanding biking tours and strengthening the destination offer together with MC Ljuboten and Hostel Kitka. In the Pelagonia region, Mountain Solution signed a contract for improving the canyoning (river hiking) offer in the rural areas of Mariovo. In Krusevo, IME supported tourism stakeholders in preparation of MTB tracks by Union Cycliste Internationale (UCI) standards. Also Touring Macedonia co-invested in new mountain bikes that will be used for new product development on Prespa Lake. In the Tikves region, IME finalized Demir Kapija's alliance activities contract for improvement of quality standard by co-investment.

IME modified partnership agreements to alleviate COVID-19 consequences for companies. IME developed B2C platforms for Balkan Prime and Touring Macedonia. IME also co-invested with Mountain Experience to purchase new e-bikes for domestic and regional tourists for the summer 2021 season in Mavrovo National Park.

In the reporting period, IME continued focusing on digital promotion and virtual events as the most relevant tools for market access during COVID-19. IME's partnership with the APST resulted in 10 videos highlighting adventure tourism continued. Videos were shared on social media in the period of July – October 2020, informing and educating domestic tourists on places to spend their time. The videos are the first time that the APST has promoted adventure tourism.

IME finalized training for 15 bloggers, journalists, and influencers in story writing, an effective alternative to the expensive traditional media used to promote destinations. Stories written by the storytellers were published on social media, grabbing the attention of over 22,000 followers. As a part of the partnership with the Agency, five stories were published on Agency's official web page.

IME assisted the National Association for Incoming Tourism of Macedonia (NAITM) for eight Macedonian tour operators participate at a B2B event called "New Deal Europe" and access the UK market via virtual sales events. Understanding the importance of digital marketing access to B2C market segment, IME has approached the co-working space Public Room and facilitated the process of IME's partners' promotion. As a result of that facilitation, Public Room in partnership with Mountain Solution promoted and sold first canyoning tour for ICT clients in Mariovo.

Annex 2: COVID-19 Impact on Sustainable Agribusiness Intervention

COVID-19 is a global health crisis with devastating impacts on the world economy, including the food and agriculture sector. While the supply of food has held up well to date, measures put in place to contain the spread of COVID-19 are starting to disrupt the supply of agro-food products to markets and consumers, both within and across borders. The agribusiness sector is also experiencing a substantial shift in the composition and – for some commodities – the level of demand.

COVID-19 has widespread impact across the whole value chain, hitting regular operations of production, buyout and processing of agricultural products and the export of goods with market surpluses. This disturbed the regular supply of sufficient quantities of food from domestic origin or import at affordable prices. The production process was affected by the disrupted supply of necessary inputs caused by the ban on export by some countries or due to operating problems of the suppliers. Macedonian agriculture is significantly dependent on many imported inputs, such as seeds and seedlings for vegetable production (mostly for the large greenhouses), phytosanitary chemicals, fertilizers, and packaging materials. Therefore, this is a primary bottleneck to growth during COVID -19. Agriculture is highly labor-intensive and may be significantly impacted by restrictions imposed on the movement of people. A possible scenario is that the epidemiological outbreak may affect family farms, mostly operated by vulnerable elderly farmers, but also the larger legal entities, particularly in viticulture and orchards which depend on the mobility of seasonal labor.

Although the general demand for food products was not decreased, reduced demand from restaurants led to a 25-30 percent decline in sales for fresh produce companies. The wine industry, which is strongly dependent on export markets, saw a drop in sales of around 20 percent. Fruits and vegetable processing companies experienced slightly increased interest for packed finished products due to the enlarged interest of the final consumers for processed and safe food, but also saw a decrease in sales for products sold to the HoReCA sector.

During the harvest season, the sector faced a precarious situation. Companies abided by good hygiene practices to avoid potential shutdowns. The lower performance of the hospitality and tourism sector affected the agricultural sector, so the businesses had to make investment in transition of the final products from bulk to retail. As the sector was affected by the COVID-19, IME partners faced similar problems. Nelkoski Organic faced a cancellation of two of three orders from Austrian company Bio Balkan while Agroplod had a significant number of COVID-19-infected employees. Aronia Zdrava Hrana also decreased operations and productivity due to regular check-ups, controls and isolation measures imposed on employees. WOM registered a 13 percent decrease in export of Vranec, Agrar Ko postponed certification for IFC due to the COVID-19 travel restrictions for the international auditor. Overall, all IME partners reported increased costs of production and processing due to COVID-19-related measures, as well as less responsive supply chain collaboration. Input suppliers were reluctant to accept delayed payment at the end of the season, after selling the produce.

To overcome problems stemming from the COVID-19 crisis, IME partners commenced using digital tools for online sale, organization of online events (both promotional and educational), online promotional activities using social media and improvement of their web pages and online catalogues.

Annex 3: COVID-19 Impact on ICT Sector Intervention

After June 2020, the ICT sector sustained clients, motivated their workforce and smoothly passed through mid-2020. The last few months of 2020 have become more vibrant with many job positions opened, yet IME's partners' general conclusion is that they have not reached the envisaged growth as planned prior to COVID-19.

As reported by IME's partners in a recent survey concerning COVID-19 impact, 60 percent faced difficulties accessing new clients and 40 percent had decreased workflow, followed by 29 percent of having difficulty in customer collections. Overall, all IME partners reported moderate-to-significant COVID-19 related impact on their work.

Another serious impact to the ICT sector, as stated by IME's partners, is the decreased possibilities to train new workforce, which was seriously influenced by COVID-19 and remote work. Interns and beginners continue to lack physical peer support and predictions are that their progress will take more time while working remotely.

While the ICT sector was mildly affected by COVID-19, IME partners are facing challenges in obtaining new clients. Most ICT companies working with IME managed to take this slow period and invest in standards especially ISO 27001 and increase their professional and managerial processes, making them more competitive. This sector was one of the rare that could perform certification online, unlike other sectors.

All IME ICT partners stated that, by the end of 2020, they managed to obtain new clients, travel and increase sales. Anchor companies do not report a significant increase of sales, but there is no loss either, making the year relatively successful for them. There is a notable increase in demand for digitalization services, globally and locally, which remains a big opportunity for IME's partners.

MAGIX.ai and Inteligenta sales are postponed as their clients have been reluctant to make new investments in advanced software. However, by December 2020, potential clients such as micro-crediting companies have begun investigating the opportunities to collaborate. Pixyle, on the other hand, in November and December 2020, marked significant milestone by securing 10 customers in the fashion retail industry and reached sales of CHF 36,000 in 2020.

Annex 6: Sector Diagrams

The three diagrams below are a graphic illustration of IME's approach and interventions in each target sector, including cumulative results from the beginning of IME's current implementation phase (August 1, 2019) to the end of this reporting period (December 31, 2020).

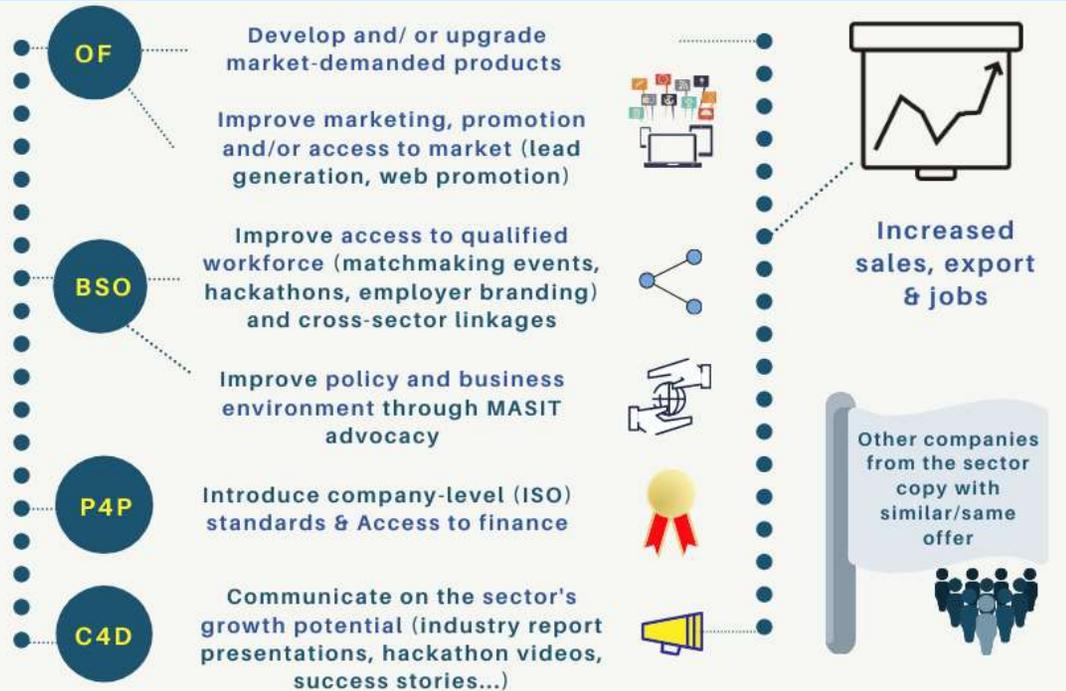
Information and Communication Technology - ICT

By the end of December 2020, IME has supported **nine** stakeholders to improve their offer and/or reach new markets. With the help of IME's affiliated BDSPs, **10** companies improved standards through certification, and several accessed funding from the Fund for Innovation and Technical Development - FITR. CHF **634,736** attributable sales was achieved through the partner companies and **66** jobs were created, out of which **33** women and **34** youth. With Covid-19 accelerating the adoption of ICT services and tools across all sectors, IME increasingly focuses on cross-sector linkages through hackathons, presentations, events etc. IME-supported ICT Industry Report and ICT Export Report helped MASIT to successfully advocate for taxation reforms - exemption from personal income tax on voluntary health insurance premiums and exemption from taxation of employees' training costs.

IME'S INTEGRATED APPROACH



Stakeholders supported to date (non-exhaustive list): MASIT, INS, MAGIX, Pixyle, Inteligenta, Hoyo Tech, SP Finki, BEST...



Adventure/ Active Tourism

By the end of December 2020, IME has supported **19** tourism stakeholders to improve their offer and/or reach new markets. With the help of IME's affiliated BDSPs, **six** companies accessed funds from (non) financial institutions for investments in facilities or products. CHF **142,436** attributable sales was achieved through the partner companies and **52** jobs were created, out of which **26** women and **27** youth.

The COVID-19 crisis has severely impacted tourist influx and sales. In the last six months, IME has undertaken a series of activities to build the sector's resiliency and support them adapt operations and products. Ten destination videos for domestic tourists under the *Doma si e doma* (No Place like Home) campaign & the first nationwide video for North Macedonia published on Lonely Planet, were developed with IME's support and are actively used by APPT, NAITM and tour operators to promote their offer.

Safety remains an important pillar in IME's AT strategy - the safety of ski centres and adventure activities has been improved through training and certification in line with international standards for ski patrollers and mountain leaders.



Sustainable Agribusiness

By the end of December 2020, IME has supported **19** stakeholders to improve their offer and/or reach new markets. With the help of IME's affiliated BDSPs, **11** companies accessed funds from (non) financial institutions for investments in facilities or products, and **nine** companies improved standards through certification for food safety and/ or organic production. CHF **2,834,732** attributable sales was achieved through the partner companies and **157** jobs were created, out of which **79** women and **81** youth.

Due to Covid-19, IME supported agribusinesses to explore and implement digital B2B and B2C tools, such as websites, online catalogues, databases, workshops, presentations etc.

The Flexibility Rulebook for small-scale producers and processors of non-animal origin products was adopted and the process of promotion and registration of small-scale farmers is ongoing. The process is facilitated by Slow Food Macedonia, with IME support.



Stakeholders supported to date (non-exhaustive list): MAP, Slow Food, Food Bar, Nelkoski Organic, Eko Leshnik, Wines of Macedonia, Vittoria Fruit, Lars, Zivot, Lazar Winery, Konimex, Lipa, Agrar Ko...

IME'S INTEGRATED APPROACH

OF

Diversify product offer by introducing new technologies in line with market needs



BSO

Strengthen supply chain, forge alliances for increased capacities and market competitiveness



P4P

Improve standards through certification for organic production & Access to Finance



C4D

Communicate on the sector's growth potential (video and written articles in Ag specialized media, social media teasers, success stories...)



Increased sales, export & jobs

Other companies from the sector crowd in with similar/same offer



Annex 7: Success stories



Going from Bulk to Final Products – Innovation and Branding, the Road to Competitive Advantage and Job Creation

In an effort to increase local and international brand recognition and drive higher profits IME has encourages companies to create more attractive lines of retail final products. The value of a final product can be up to 85% higher than the same product being sold as a semi-final bulk product. However, the high production costs associated with the upgrade from semi-final to final products can have an effect on a company's' decision to pursue such an investment.



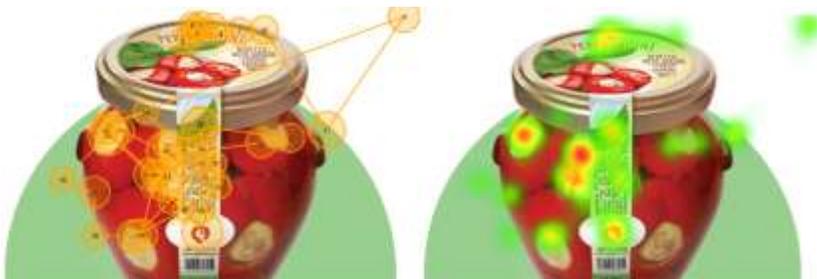
Agrar Ko™, a company from Kochani, has been a supplier of semi-final cherry pepper products to the hotel, restaurant, and catering sector as well as international antipasti factories since 2010.

Agrar Ko™ was interested in creating a retail line under their own brand however this new investment has been a challenge due to the ongoing demands of their current infrastructure and technology as well as the capital spent on raw materials and supplies. *“We have constant demand from our current clients to provide finished products, but we lacked the resources to invest in new packing equipment and labeling technology. This means lost revenue due to lower margins and limited employment opportunities mainly due to the current products being seasonal”* explains company founder Jasna Stoimirovska Velichkov.

Support for Innovative Packaging

IME's co-funding allowed Agrar Ko™ to finalize their new product line. Using new equipment for printing and labeling as well as a branding strategy expert, the company was able to explore glass and tin packaging in line with industry trends as well as innovative labeling solutions for their shelf-ready products.

With co-financing from the Fund for Innovations and Technology Development Agrar Ko™ created a new trademark, Arel Neuromarketing™. The company is now the first in the country to invest in neuromarketing, an innovative



field of marketing that uses advanced biometric technology and artificial intelligence to investigate the subconscious reactions of consumers triggered by marketing stimuli such as packaging and advertising along with other product characteristics.

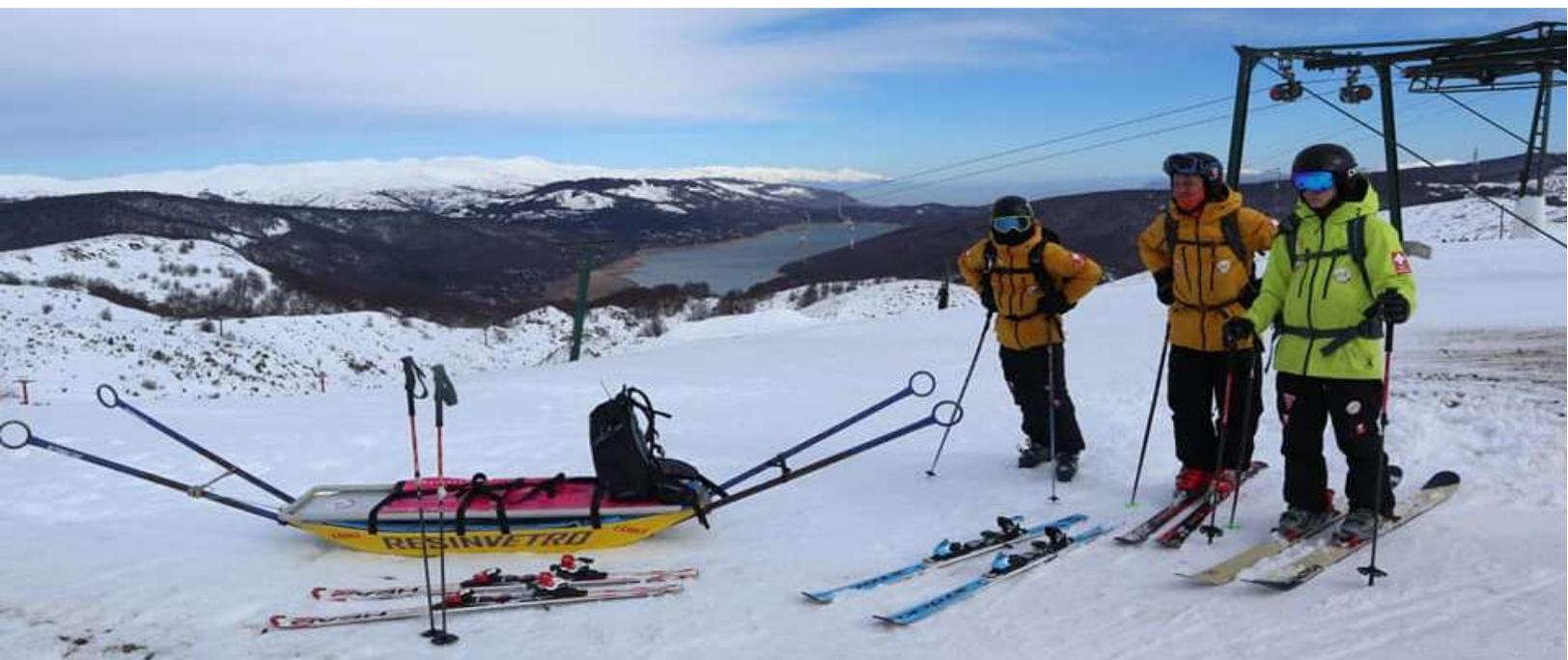
By applying neuroscience to marketing, the company can highlight the key messages on their packaging which will give their products a competitive advantage on local and international supermarkets shelves.

Producing Results After Two Months

In November 2020, the first batch of retail-ready stuffed peppers were exported to Bosnia, followed by batches to Lithuania in December. Based on feedback from existing and potential clients gathered at business exhibitions, Agrar Ko™ is working on introducing their popular sweet & sour recipe to the retail market. They are currently in the design phase which includes neuromarketing based testing.

To keep up with the increased business Agrar Ko™ has expanded their team, including a full-time sales manager with experience in digital marketing. In lieu of international expos, the company is tapping their existing network of contacts to gain new sale opportunities, followed by sales on digital platforms. *“My newly acquired position has been a great career advancement for me in terms of gaining new sales pitch skills. Staying connected to the clients is challenging, but at the same time encouraging especially when new clients become long term partners as a result of recognizing our quality”*, states Aneta Nacova, sales manager at Agrar Ko™.

Agrar Ko™ are expecting 2021 to be a busy year with a focus on their expanded portfolio of shelf-ready products for export. “This investment will enable us to enter new markets and move from seasonal to year-round production” confirms Jasna. They project that supplies of raw ingredients will almost double with an additional 450 - 500 tons per year. Introducing the new product line will contribute to increased employment and profit margins not only for Agrar Ko™, but across the entire supply chain of farmers, vendors, ingredient partners, and packaging partners. It is companies like Agrar Ko™ who, by demonstrating capacity to act as drivers of change, can lead the transformation of the agribusiness sector in North Macedonia.



Safe in the Mountains – Lifting Safety Standards in Macedonian Ski Centres with Swiss Support

With more than 34 mountains higher than 2,000 metres and the fifth highest average elevation of any country in Europe, North Macedonia has excellent potential for year-round mountain tourism including hiking, camping, skiing, and snowboarding. However, the lack of comprehensive safety systems at both the national and private levels is a serious drawback for local and foreign visitors. To address this requirement, a group of alpinists, climbers, and hikers formed Asklepij (Asclepius), the Macedonian association for protection and rescue on mountains and inaccessible terrain. Since 2005, it has operated as a volunteer organization with some temporary contracts for its professional members. The organization established ongoing mountain rescue trainings for new members, attained full membership in ICAR (International Commission for Alpine Rescue), and launched a training department, the Center for Education and Science, with training programs verified by the Ministry of Education and Science. Asklepij is the first organization to provide professional rescue services in the country, starting from the ski center Kozuf in 2007, followed by the ski center Popova Sapka in 2017, and most recently the ski center Mavrovo in 2018.

Asklepij and IME Toward the Same Goal

With a record number of 800 ski patrol interventions at the two ski centres in 2019, there was a demand for a larger pool of ski patrollers and rescuers. Asklepij received IME's support to act as a business support organization (BSO) and provide advance training to a new generation of ski patrol rescuers, who would then be hired by the ski centres.

A coordination body with representatives from the Agency for Support and Promotion of Tourism, the Ministry of Economy, and four ski centres was established to define the training parameters. In December 2019, following an open call, a group of 36 candidates were selected for a four-month theoretical and practical training program and, in December 2020, 18 candidates successfully passed the final exam and were awarded the title of Rescuer in the Ski Patrol. They are now certified with the international ICAR standard from a program verified by the national Ministry of Education and Science. Ski patrollers are the first people to be on the ski terrains every morning, and last at the end of the day. “Being a rescuer is a challenging but also a fulfilling experience. Our job demands quick and efficient arrival at the place of the accident, providing first aid and safe transport to a medical professional. This requires intensive practical training.” says Igor Saveski, Popova Shapka ski patrol leader.

The training for ski patrol rescuers covers topics such as rescue of ski runs and cable cars, navigation, rescue on accessible mountain terrain, first aid, transport of injured persons, and risk management.

A New Generation of Ski Patrollers



The start of the 2020/21 winter season in Mavrovo and Popova Shapka was backed with the new generation of rescuers. “Thanks to the training, the operational efficiency of the ski patrol is significantly increased, the service has more people and the time required for intervention is shortened” noted Asklepij President, Vlado Nastoski. Despite the lower tourist turnout due to Covid-19 restrictions, Asklepij ski patrols and rescuers have performed 42 interventions in second half of December 2020 alone. Ski centers believe this increases the level of

safety and satisfaction of visitors. “We work with Asklepij to raise the level of safety in our ski centre. We constantly receive positive feedback from the tourists as they feel safe knowing that the patrollers are always on the ski terrains and would provide quick and effective service when needed” shared Ognjan Cigovski, Director of Ski Centre Mavrovo.

Instigating a Broader Change

In addition to providing immediate rescue and first aid interventions, Asklepij is on a broader mission to raise awareness among the ski resorts about the need to put safety measures into place. “Tourism providers need safety standards and services in place to make their product offer more appealing to local and international tourists” said Asklepij board member Konstantin Ciriviri. In addition to the vocational training Asklepij has secured its sustainability by offering commercial services to ski resorts. Additionally, Asklepij, along with five alpinist clubs and the rescue services within Red Cross Ohrid, recently established the National Union for Mountain Rescue. The Union advocates for mountain safety in the public discourse of institutions and tourism businesses IME will continue working toward advancing tourism products by putting safety at their core because only safe destinations are attractive destinations for domestic and international tourists.



Macedonian ICT Company with A Pioneering Solution for the Global Construction Industry

As a result of rising urbanization worldwide, there is a push for innovation and improved productivity in the Architecture, Engineering, and Construction (AEC) industry. One way forward is to digitize and automate the building permission process, which still to a large extent is handled manually on paper or through several disintegrated systems. A Macedonian ICT company is the first in the world to implement a solution incorporating a Building Information Model's (BIM) asset inventory and authoring tool with a permitting workflow and collaboration platform used by multiple governmental entities.

Intelligent Network Solutions (INS) has developed business solutions for large enterprises including software vendors and technology start-ups in the urbanism, agriculture, telecommunication, and the utilities industries. Starting in a Skopje-based office in 2007, over the years they have expanded to Austria, the United Arab Emirates (UAE), and Australia, growing to 55 employees in 2019.

Applying Domain Knowledge to Fill a Market Need

As a result of their extensive experience with clients from the construction industry, INS has identified the demand for a software to automate the e-permitting process for building especially in markets with construction booms such as the UAE.

The new solution will blend two of their fields of expertise - Building Information Models (BIM) and Geographic Information Systems (GIS) to create an Automated Code Compliance Checking Engine (ACCCE). However, INS was unable to dedicate sufficient workforce resources to develop the software because resources were needed to complete other ongoing projects.

IME recognized the opportunity and provided support to INS at the critical moment to develop this innovative market-demanded product. “We received IME’s co-funding to build a proof of concept for the software code. This software was perceived as a huge opportunity for our company, with potential for multiplying revenues in 3-5 years down the road, securing us a leading position in this niche market segment – the UAE.” Said Mihajlo Shirgoski, INS Business Development Director.

With IME’s support, INS developed the new software in less than six months. They also engaged three other local vendors in the software development – IT companies from North Macedonia that helped with GIS code analysis and BIM integration support. The final product is the e-permitting software ACCCE which allows for automated review of the proposed building plan against construction standards and regulations in a variety of counties and building zones. Builders enter the specifications into the software, which then tells the investor what needs to be adjusted to abide by building permit requirements.

INS’s pioneering solution for e-permitting - ACCCE - will save time for builders, architects, and urban planners as it is computerized and will avoid human error.

Penetrating the UAE Market & Growing Beyond

Immediately after the software was finalized, the Municipality of Dubai purchased the software to modernize their permitting processes for its booming construction industry. After piloting the program in Dubai, INS is now in negotiation with few other UAE countries, and is also considering offering the software to the Australian market.

INS is closing 2020 with a 15% increase in income on company level compared to 2019. Placing the product on developed high-end markets, results in increased workload and profit for the other local IT companies that are part of INS’s value chain.

Since this investment, INS has grown to 70 employees which includes an HR professional for structured care to their expanding team. INS offers high-skilled and creative jobs that are especially appealing to young professionals.

With this solution, INS is at the forefront of innovative e-permitting software for the construction industry. This is an illustrative example of how an (ICT) company can achieve and sustain success when by identifying market gaps and leveraging in house expertise. By succeeding on the international arena, INS is serving as an ambassador for the Macedonian ICT sector and its high potential for offering quality products and services.