

Company (SME)

Vito Graziano



Italy, director and furniture designer

Vito recently took over his family business, a small and traditional furniture company in the region of Veneto. Unlike his parents, Vito studied abroad and gathered considerable international experience throughout his life. He now wants to internationalise the company and use the power of technology to add value to their offerings, but is still unsure how to start.

"It is my wish for our company to advance, to better absorb all the developments in technology and further implement digital transformation. To achieve this, support is needed - we just don't quite know how and where to start."

Goals

- Adopt digital tools in everyday work
- Look into possibilities to further automate the production while maintaining the company's heritage
- Establish international partnerships to introduce the company in other EU markets

Motivations

- Economic impact of the COVID-19 crisis demonstrated the need for a strategic change
- Personal experience led to a better understanding of the potential value of international collaboration
- Recommendation and advice from peers and colleagues in the industry encourage further actions

Core needs

- Have higher awareness of opportunities provided for digitalisation, such as funding and support
- Increase understanding on how to implement technologies and find pathways to drive it forward
- Understand with whom to connect (an actual contact person) to establish and drive collaboration

Challenges

- Find the right expert to help adopt technologies; shortage of professionals in the market
- Although training/support is needed, it is seen as a high investment for their small organisation
- Lack of expertise in topics related to digital transformation and technology

Collaboration

- Companies
- VET providers, technological parks, regional authorities
- Research centres, chambers, universities, chambers



Competencies needed

- Digital expertise - management/implementation
- Technical digital expertise (e.g.: big data, 3D printing)
- International collaboration



Company (SME)

Tuomo Nikkari



Finland, partner & software engineer

Tuomo is one of the three partners of a company with around 25 employees. They specialise in industrial automation, focused on designing, building, assembling and installing production systems for clients; they also provide consulting services. As automation integrators, they have strong expertise in areas such as mechanical, electrical and software engineering.

"We need well-prepared professionals, who are ready to contribute and create value. It is not easy to find someone trained in the specific skills we need, so we do provide extensive training – however, we need the right profile to commit with such an investment."

Goals

- Ensure his company stays on the side of cutting edge technology
- Find the right resources in different areas (e.g.: technology; marketing) to expand their services
- Establish long-term partnerships, with thick collaboration and strong mutual understanding

Motivations

- Strong technological hub in the area the company is located
- Regional support for technological development and good economic outlook
- Although challenging, personalised approach strengthens their relationship with the client

Core needs

- Professionals with strong soft skills who can collaborate with partners and face clients
- Strong support with marketing and sales
- Become increasingly more flexible and adaptive as they transition from traditional methods and tools to virtual/remote working

Challenges

- Too focused on local partnerships (although acting on a EU-wide market); lack active international collaboration
- Engineering-driven mindset sometimes is limiting
- Older systems and assets are difficult to integrate; also difficult to collect and process data

Collaboration

- Companies, universities, research centres
- VET providers
- Associations of sectors



Competencies needed

- Technical knowledge in 2+ disciplines
- Strong collaboration with a variety of disciplines
- Simple communication (consultant profile)



Company

Aleš Zver



Slovenia, R&D manager

Aleš is responsible for managing the R&D group in a large telecommunications equipment supplier. The main customers are located in other European countries, such as Germany and France. Although the company is experiencing growth and is recognised as a reliable partner, they now have the ambition to move from technology adopter to technology provider, expanding their services beyond the traditional OEM role.

"We need industry standards and a platform on a global level to better develop our own solutions. But beyond that, we need professionals who have a holistic perspective of the industry to envision the future and make it happen."

Goals

- Start developing solutions instead of using market-ready
- Shift from technology adopter to technology provider
- Find new market sectors besides the traditional industries/B2C markets; add products focus

Motivations

- Increase in EU-wide regulation for related technology and equipments
- Industry growth and positive economic prospective for the field/country
- Lead the industry; develop knowledge and increase market share/company recognition




Core needs

- Industry standards and a established platform to develop their own solutions
- IoT expertise both for product development and automated production
- Operational employees to connect IT infrastructure + leaders with a holistic understanding of the field




Challenges

- Customers are increasingly requiring for IT solutions that lack common industry standards
- Difficult to attract talent as they are not located in the biggest hubs (Ljubljana/Maribor)
- Time to market: fast moving market + fast technology advancement + fast customer service

Collaboration

- Companies 
- VET providers, universities 
- Research centres, chambers, regional authorities 

Competencies needed

- IoT solutions and applications 
- Project management 
- Envisioning & leadership 

VET provider

Tanja Planinc

"The topic of IOT in the VET sector is still quite new. That is why we are looking for experts who can provide valuable knowledge to our school centre, and to further share good examples and best practices with other VET providers."



Slovenia, VET school director

In her new role as director for a VET school in Slovenia, Tanja is pushing the agenda to better incorporate CDS/IoT in the programs and be at the forefront of the field. A strong advocate for an interdisciplinary learning approach, she seeks to further strengthen collaboration with other institutions and improve cooperation in international projects. Resource limitations as well as the lack of industry insights are some of the barriers faced.

Goals

- Connect the learning process with practical training to reduce the gap with the industry
- Develop IoT as a field of education in the school centre, and embed it in their programs
- Provide customized educational paths, involving students in the learning experience.

Motivations

- Promote change in the education system, becoming more user-oriented and digitalised
- Have an active school ecosystem that includes partners and improve cooperation
- Industry development - provide the resources needed in the industry (regional and EU-wide)

Core needs

- Provide new information and knowledge to learners and tutors by connecting them with experts
- Deliver individualisation in mass-customization (allow programs to adapt to learners' needs)
- Reorganize their educational process and make the infrastructure for it

Challenges

- Establish active and relevant international partnerships and collaboration
- Knowledge in IoT is segmented between their different programs; difficult to evolve the format
- Manage human resources; find and retain experienced professionals; increase funding

Collaboration

- Companies, universities, VET providers
- Regional authorities
- Associations of sectors, technological parks



Resources needed

- Connection between business school and technical school
- Modern labs and equipment - evolve fab lab
- Industry insights - connect platforms and resources



Tutor

Marika Salo



Finnish, 43 y/o, VET & university tutor, researcher

Marika studied electrical engineering and mechatronics; as she has always been interested in the health field, she decided to combine it with her technical expertise for her doctoral thesis. She is now a professor and also conduct applied research in the intersection between healthcare and technology. She works closely with companies and with VET schools for its implementation.

"Although the educational system provides quite some technical understanding, students still miss a view of the application areas. I believe it is important to show how technology is an active enabler in many industries, and foremost, for improving peoples' lives."

Goals

- Understand what students want to get from education, and the best value it can deliver them
- Guide students to find an area in which they identify themselves with
- Further develop her research, share it with students and establish pathways for implementation

Core needs

- Develop her own soft skills, and find ways in which she can better guide students
- Flexibility with time and classes format - align classes with her research work
- Ensure students already have the technical foundation established for taking her classes

Hobbies

- Watch documentaries related to her field of work and attend conferences
- Likes to cook for her family and friends, and to play with her cat
- Play the flute; listen to classical music and attend orchestras

Motivations

- Develop research that can help to improve the life of others
- Envision how technology can have a meaningful application for society
- Share with students a perspective on the field of work based on purpose

Challenges

- Find enough funding resources for interdisciplinary collaboration and research
- Students are many times forced into silos, being difficult to foster interdisciplinary collaboration
- Virtual collaboration is not as effective - simulated labs work, but don't have the same impact

Teaching habits

- Motivate students to learn through projects; provide challenges that require a holistic overview
- Encourage students to engage in labs and hands-on practice; allow them to fail
- Ensure there is time for reflection after a lesson - students need to learn how to think for themselves

Tutor

Umberto Salucci



Italian, 38 y/o, VET tutor

Umberto teaches basic electronics and automation techniques in the electrical department. He worked in the industry for over a decade prior to becoming a tutor; and still maintains the connection with it by offering his consultancy services to companies. Becoming a tutor was not initially planned - after realising he was burned out working as a regular engineer, he received an offer from the VET school he graduated when younger.

"It is important for me to keep in contact with the real world - teaching should be more practical. It is a problem to just focus on theory, as students don't know what to do with it. Practicing this theory in projects gives them motivation and also raise their interest in the field."

Goals

- Improve the quality of education - apply his industry insights to cover the education gaps
- Provide students working discipline and help them become independent learners/professionals
- Ensure students have a solid knowledge foundation

Motivations

- Help students in their learning journey, as well as advance in his own learning journey
- Help the local industry/economy develop through better education
- The school is a more stable professional environment; it also gives him a sense of fulfillment

Core needs

- Keep himself updated of the latest advancements in the industry/technology
- Learn best teaching practices from peers; understand how to develop further in his job
- Find ways to innovate in his classes and ensure there is a balanced and focused group of learners

Challenges

- Teach learners with different motivation and knowledge levels in the same class.
- Have a framework to evaluate his own teaching
- Update materials/make them accessible to learners
- Keep student engaged when teaching the basics
- Help learners develop soft skills

Hobbies

- Read specialised technology magazines, as well as checking the news online
- Spend time with his family and play Lego with his small daughter
- Cycling once in a while with friends around his region

Teaching habits

- Provide short sessions of lecture/theory prior to exercises; guide students individually
- Give real challenges from the industry
- Allow students to apply their own approach to projects
- Often request team work and presentations

Family & friends

Hanna Pärn



Estonian, 27 y/o, Sander's girlfriend

Helena started dating Sander four years ago. She met him when he was still working as a security guard and going through a difficult moment in life. Seeing how unhappy he was with his job, she motivated him to pursue an area that resonates with his hobbies and that he could get financial return fast. As she also attended VET school, she introduced the possibility to him. They are now saving money to move in together.

"It is difficult to see someone you love going through a rough phase. I guess supporting them means to believe in them. It is usually this way, the ones who are closer to someone are also the ones who know best their true potential."

Goals

- Advance in her own career as a multimedia specialist
- Move in with Sander in their own flat after he finishes his studies
- Plan a trip around Europe and improve her English skills

Motivations

- See Sander's self-confidence increasing as he further advances in his studies
- Help Sander develop his potential to guarantee a future together; receive the same support from him
- Pursue a future in which both Sander and her can stand on their own

Responsibilities

- Earn money to provide for herself save money for her future
- Help her parents take care of the house while she still lives there
- Coordinate her full-time job with freelance work she does on the weekends

Challenges

- Deal with her parents' judgement on Sander's current VET student status
- Save money to move in together with Sander while he still doesn't have a full-time job
- Develop her relationship with Sander while both still live at their parents' place

Priorities

- Sander and her own professional development
- Have a stable future
- Sander to feel proud of himself

Education factors

- Professional support
- Quality of education
- School recognition

Family & friends

Enej Plešec



Slovenian, 53 y/o, Angela's father

Married and father of three children, Enej is an active fireman who supported them to do sports since young. Eight years ago he decided to move to Nova Gorica to provide them better education options. As Angela's older brother attended VET school prior to university, it was easier for Enej to support her decision to also pursue it. He has high hopes for Angela to go to university afterwards.

"Once you become a father, you place more importance on how your decisions will affect your children's life than your own. Although I work hard for them to have access to good opportunities, it's up to them to identify these and make the best out of them. I can only support."

Goals

- Provide Angela access to good schools and education options
- Ensure Angela has other meaningful hobbies to help shape her personality
- Ensure the best conditions for Angela to make an informed decision on her future

Motivations

- His children to have a good financial situation in the future to support themselves
- Angela to have a career in which she feels fulfilled and is respected by others
- See the results of his hard work in his children's future and feel proud of them

Responsibilities

- Provide financially for his family and dedicate money for education
- Together with his wife, ensure Angela is learning in school and at home
- Support Angela's growth as a human being, and help her lead a happy life

Challenges

- Convey to Angela the importance of studying and having a degree
- Deal with Angela lack of concern regarding school exams and grades
- Understand technology and career options in the field

Priorities

- Development of Angela's character as a person ● ● ● ● ●
- Angela to feel fulfilled in her professional life ● ● ● ● ●
- Financially secure future for Angela ● ● ● ● ●

Education factors

- Quality of education ● ● ● ● ●
- School recognition ● ● ● ● ●
- Extracurricular activities ● ● ● ● ●

Learner

Sander Kolk



Estonian, 29 y/o, VET learner

Sander lives with mother and is currently studying to become a telecommunications specialist (attending the last year). He went to gymnasia when younger and attended one year of university, but decided to drop out as he found it too theoretical. After going to the army and spending some years working as a security guard, he then decided to try a career shift - his girlfriend and mother were his main sources of support in this choice.

"I was dismotivated in my professional life and felt like there was no job suited for me. I decided to join the VET school, and at the beginning I felt ashamed because I was 10 years older than my fellow learners. I now hope to have a place in society, with a secure job."

Goals

- Have a secure and stable job, being able to grow professionally
- Become fully able to provide for himself and to have a good financial perspective in the future
- Feel useful to society and be able to build a career that is aligned with his identity

Motivations

- Have a better professional and financial perspective for the future
- Give meaning to his professional life - discover and potentialise his talent to create value
- Receive guidance not only for his career, but on other aspects in life

Core needs

- Have a good overview of the study/career possibilities and what are the possible paths to take
- Have clear information on his studies and classes, without having to ask other students
- Access to the industry, as well as understand/have access to other possibilities (e.g.: start a business)

Challenges

- Finds difficult to be fully aware of his gaps, as well as to adjust his mindset to learn new concepts
- Expectations and reality (such as financial compensation) can be mismatched
- Feels pressured - feels like there are higher expectations on him as he's older

Hobbies

- Likes cars and technology - especially working with audio systems and fixing cars
- Play with drones and do activities outdoors, in nature
- Has practiced martial arts since young and enjoys watching related movies

Learning habits

- Have material to study and refer to, such as books, webpages, recorded classes
- Work on his own personal projects, trying to make something useful out of them
- Try to bridge concepts to practical work, especially in apprenticeships/internships

Learner

Angela Plešec



Slovenian, 18 y/o, VET learner

Angela is in the last year of the Computer Science programme. Originally from a small town, she lives with her parents in Nova Gorica; she also has two older siblings who are now in the university. Besides being fascinated about computers, she is an active player in the local basketball team. Her family and friends influence her a lot on her choices for the future, and also give her confidence on facing challenges.

"Sport and friends have been an important part of my growth. As my teammates were all inspiring people, they helped me realise I need to study better to achieve my goals in life. I understood I have to change my habits in order to become someone I can be proud of."

Goals

- Have a secure and exciting job in the future, in which she can be recognised and respected
- Combine her interests and education to deliver a meaningful contribution to society
- Have fun and never stop learning - live a life full of new and exciting challenges

Motivations

- Interaction with friends and teachers, establishing a meaningful bond with them
- Create new things and find new ways to solve problems, especially in interdisciplinary projects
- Evolve her critical thinking, being able to voice her opinion and discuss about relevant topics

Core needs

- Wishes she could express herself in her studies - showcase her character, passion and individuality
- Needs to do things herself to better understand how they work and why they're relevant
- Wants to be heard and to receive guidance on her next steps in life

Challenges

- Feels insecure about the future, and wishes there were more girls in the same field of study
- Finds difficult to understand the 'why' for some subjects; and the 'how' for problem-solving
- Has to search by herself topics that truly interest her and maybe are too 'modern' for the school

Hobbies

- Loves playing basketball – quite engaged with the local team; also attends competitions
- Adventurous, enjoys traveling and trying out new things
- Interested in visual effects – tries to learn on her own as a hobby

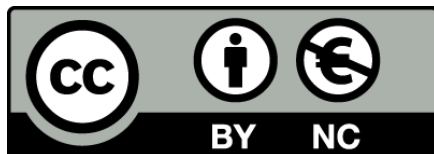
Learning habits

- With the support of her basketball coach, started reading self-help books to improve her study habits
- Youtube videos and TED talks are insightful and easy to follow
- English is a big part of her study life - online translator tools help her as she finds new content



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