



Microcredentials and Guidance on Industry 4.0

Activity A5 - Pilot and Finalization of Microcredentials and Pilot Report Presentation

Done by C4G



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2. PILOT FOR THE FIRST MICROCREDENTIAL: GOOGLE TOOLS – CALENDAR

C4G implemented the first microcredential, "Google Tools – Calendar," with a group of six trainees over two weeks (June 2nd – June 14th). The assessment process was conducted using the Micco system, where trainees uploaded evidence of their learning progress, and assessors reviewed their submissions.

Key Observations & Issues Identified:

1. **Premature Completion Notification:** Some trainees reported that upon submitting their final evidence, the system automatically marked the microcredential as completed, preventing them from making further submissions.
2. **Challenges with Uploaded Evidence:** Assessors found the images uploaded by trainees to be too small and difficult to read. Additionally, some trainees submitted blank evidence and did not delete it, forcing assessors to review empty submissions.
3. **Lack of Evidence History for Assessors:** Once an assessor reviewed a submission, the system did not retain any record of the uploaded evidence. This lack of historical data limited the ability to track trainees' progress.
4. **No Feedback for Trainees:** The platform did not provide feedback after assessment, leaving trainees without feedback on their performance or areas for improvement.
5. **Unclear Assessment Criteria:** A high number of trainees failed despite assessors intending to approve them, raising concerns about unclear evaluation parameters.

Recommendations for Improvement:

1. Adjust the system to allow trainees to continue submitting evidence even after the last activity.
2. Implement clearer guidelines on acceptable evidence formats and ensure better image resolution for assessments.
3. Enable storage of past submissions for assessors to reference.
4. Integrate an automatic feedback feature to inform trainees of their results and improvement areas.
5. Clarify assessment criteria to ensure alignment between assessors' expectations and system grading.
6. This pilot provided valuable insights into the strengths and weaknesses of the microcredentials implementation, helping refine future iterations to ensure a more effective learning and assessment experience.

3. SURVEY “COMPETENCES IN INDUSTRY 4.0”

To gain valuable insights into industry perspectives on Industry 4.0, its technological impact, and training needs, C4G launched a survey targeting various organizations.

This survey aimed to assess how companies are integrating Industry 4.0 technologies, the key challenges they face, and their expectations for workforce training and development.

The screenshot shows a survey form titled "Competências para a Indústria 4.0". It includes logos for MaGIC, C4G, and the European Union. The text in Portuguese explains the "4th industrial revolution" and the need for new competencies. It lists the objectives of the project, which include investigating competencies, mapping training offers, developing modules, creating a microcredential tool, and piloting in Portugal and Italy. It also mentions that the survey is part of the Erasmus+ VET project and asks for collaboration in completing the questionnaire.

https://docs.google.com/forms/d/1NpAx9Qsha3rCPCbF0k5bty3_AbX3EriTkqSOcKU2FcA/viewform?ts=667a8d69&edit_requested=true

1.1. Survey results

C4G received 8 responses to the survey with the following results:

1. IDENTIFICATION

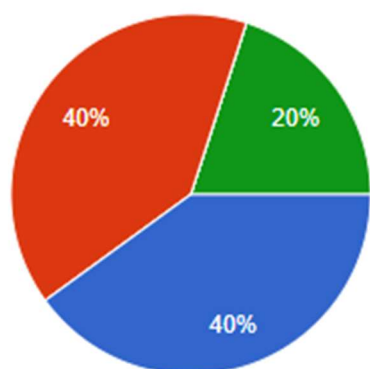
1.1. Company Name:

- Conceptwin
- iNESC TE
- Veracruz
- Beiralacte, Lda.
- Unliever Fima
- Belzona Portugal, Lda.
- QPC
- Bio-Agro-Turismo Quinta do Vale
- ADES
- ACICF

1.2. Location:

- Fundão
- Castelo Branco
- Porto
- Idanha-a-Nova
- Santa Iria de Azóia
- Oeiras
- Macedo da Cavaleiros
- Sabugal

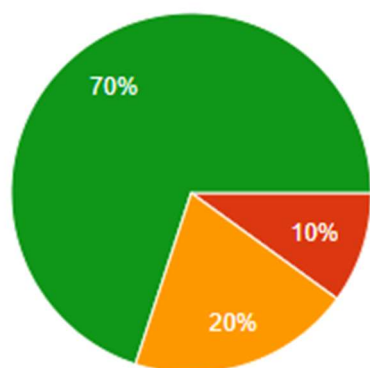
1.3. Number of Collaborators:



- 1 a 10 colaboradores
- 10 a 50 colaboradores
- 50 a 250 colaboradores
- Mais de 250 colaboradores

Blue – 1 to 10 employees
Red – 10 to 50 employees
Yellow – 50 to 250 employees
Green – more than 250 employees

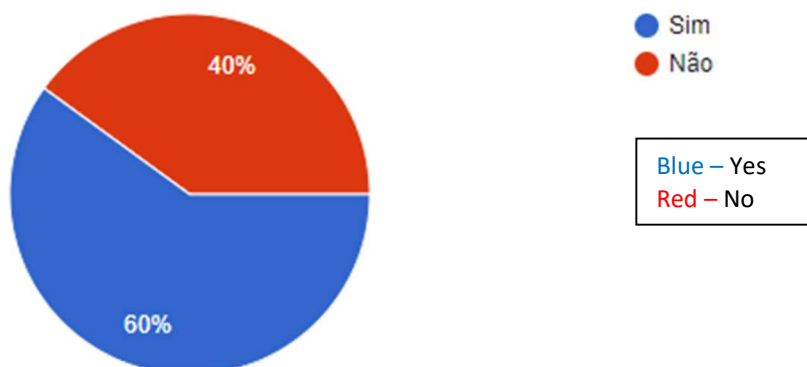
1.4. When was the company created?



- Menos de 1 ano
- De 1 ano a 5 anos
- De 5 anos a 10 anos
- Mais de 10 anos

Blue – less than 1 year
Red – 1 to 5 years
Yellow – 5 to 10 years
Green – more than 10 years

1.5. Do you operate in the industrial sector?

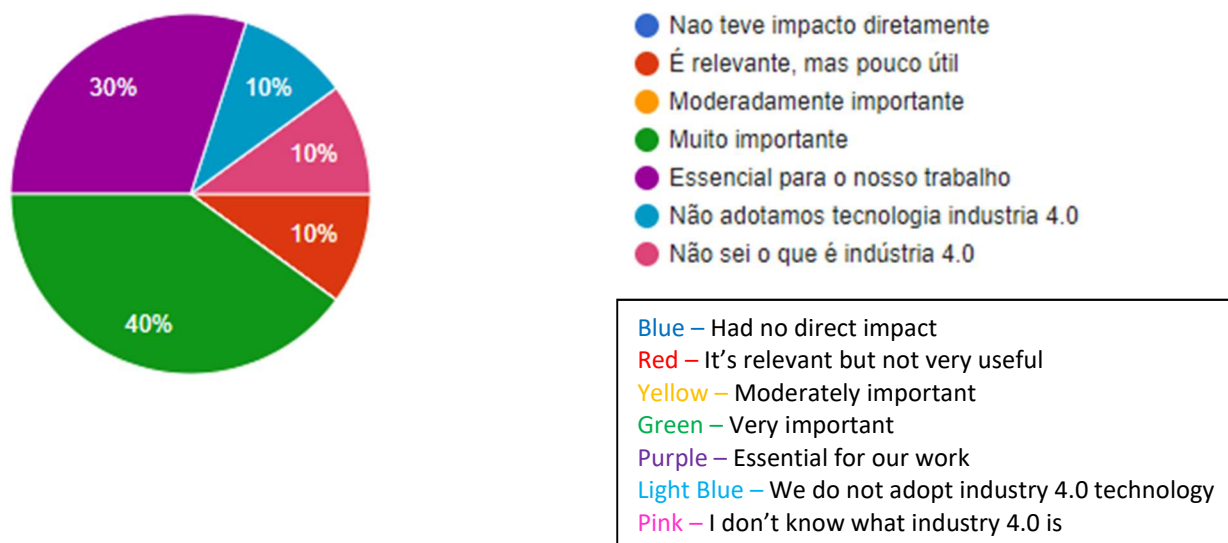


1.6. What industry do you operate in?

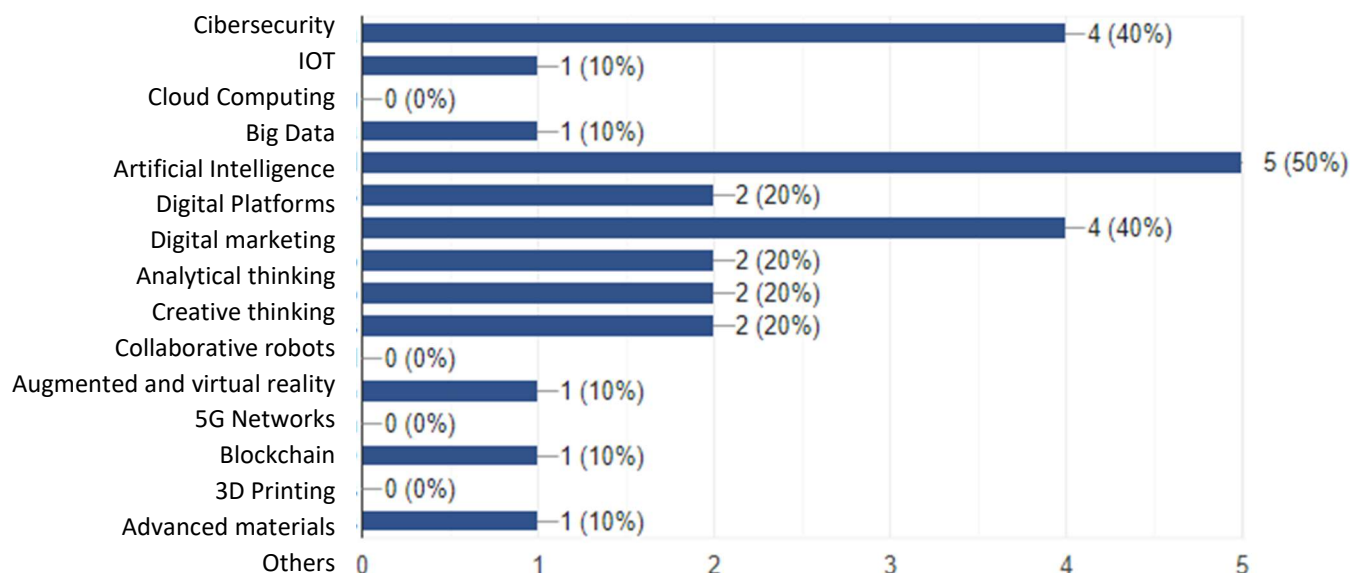
- None
- Food industry
- Dairy industry
- Several
- Hotel industry
- Fruit processing

2. EVOLUTION

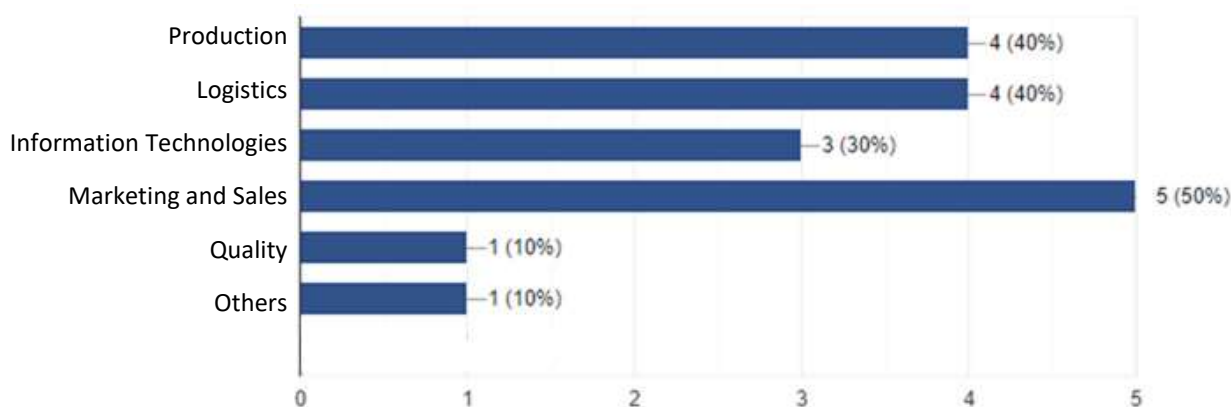
2.1. To what extent has the adaptation of Industry 4.0 technologies had a significant impact on your organization's operations over the last five years?



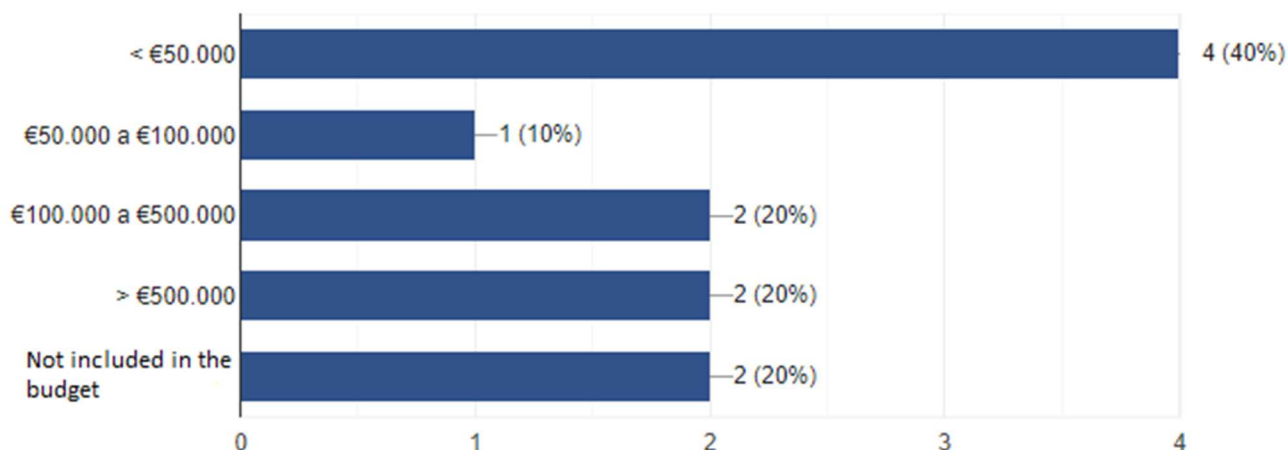
2.2. What emerging technologies or trends within Industry 4.0 do you expect to have the most significant impact on your sector over the next three years?



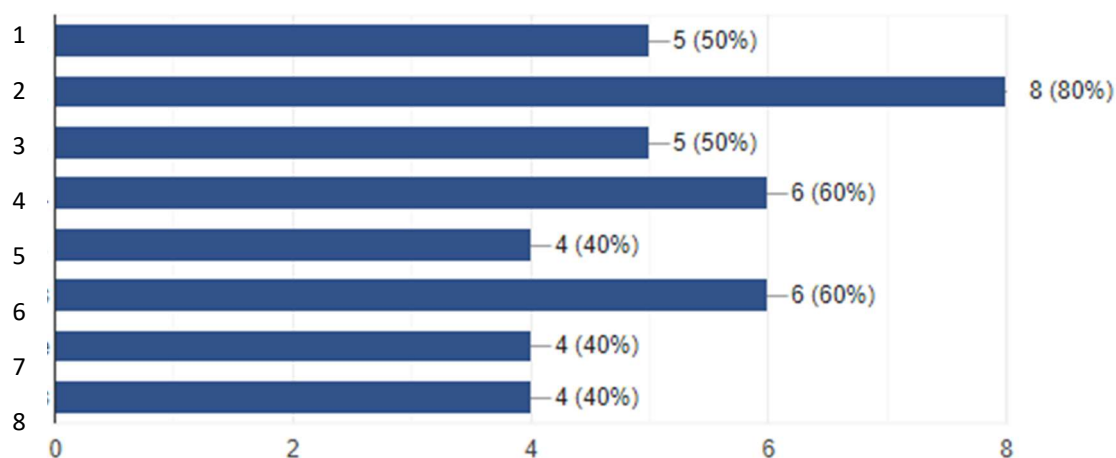
2.3. What are the main areas of application of 4.0 technologies in your organization?



2.4. What is the estimated value of annual investment in industry 4.0 technologies in the organization?



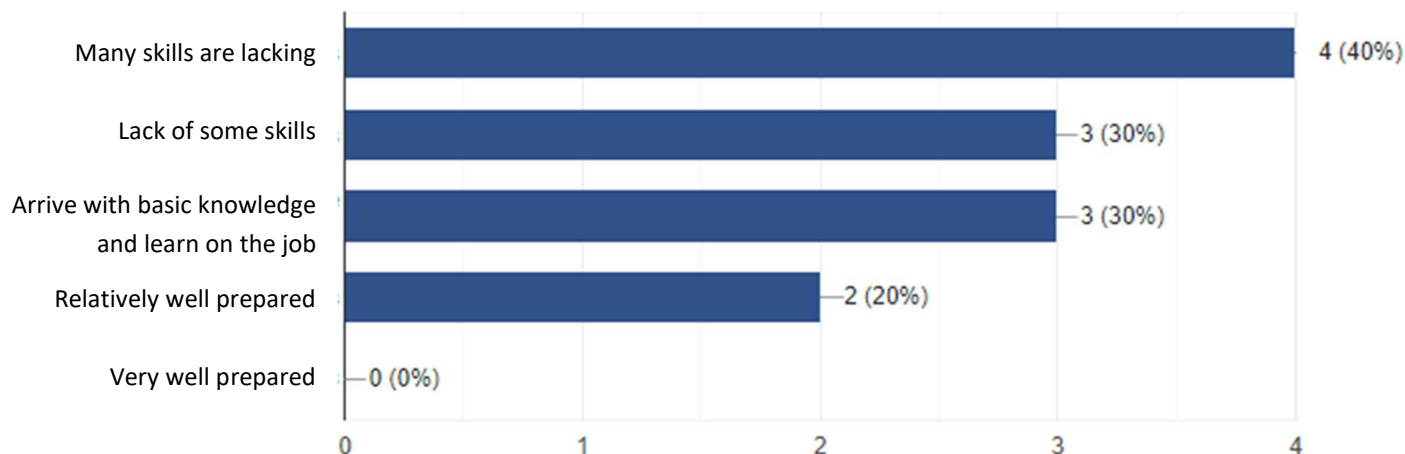
2.5. Of the factores listed, indicate the three factors that you recognize as being most important when investing in 4.0 technologies.



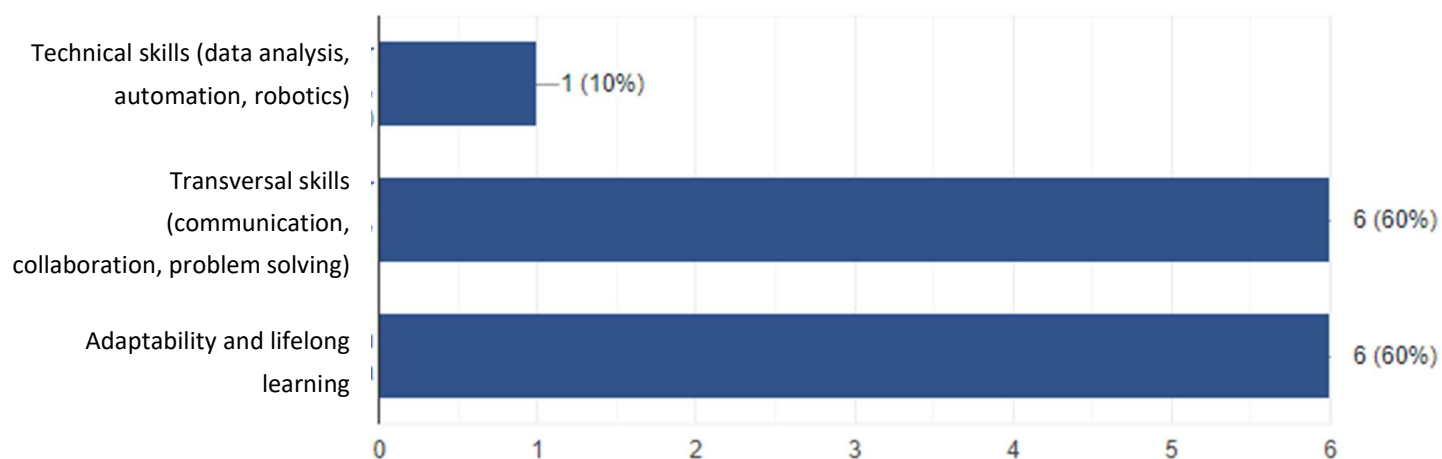
- 1 – Adequacy of products/services to customer needs
- 2 – Increased productivity and operational efficiency
- 3 – Increased speed of customer response
- 4 – Reduction of errors
- 5 – Improving working conditions for employees
- 6 – Cost reduction
- 7 – Sustainability
- 8 – Making informed decisions

3. SKILLS FOR THE FUTURE

3.1. Do your employees have the necessary skills to effectively use Industry 4.0 technologies in your organization?

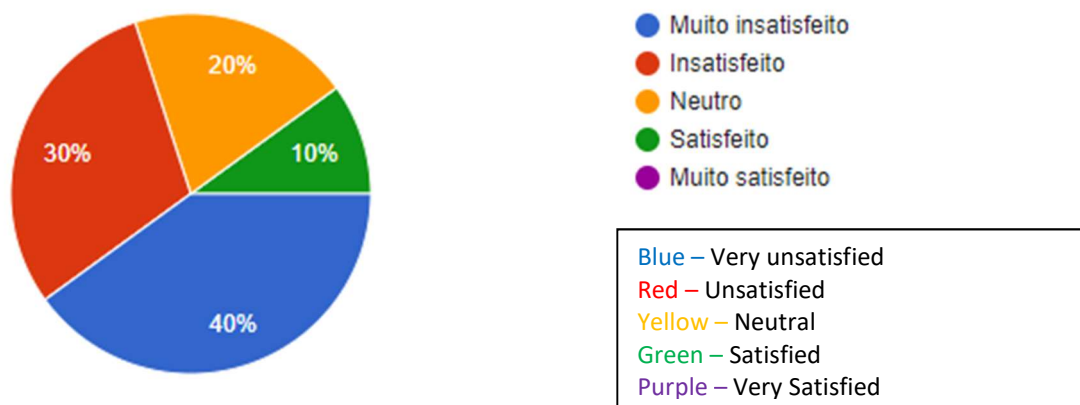


3.2. When recruiting new employees, what skills do you consider most important for success in your organization within the context of Industry 4.0?

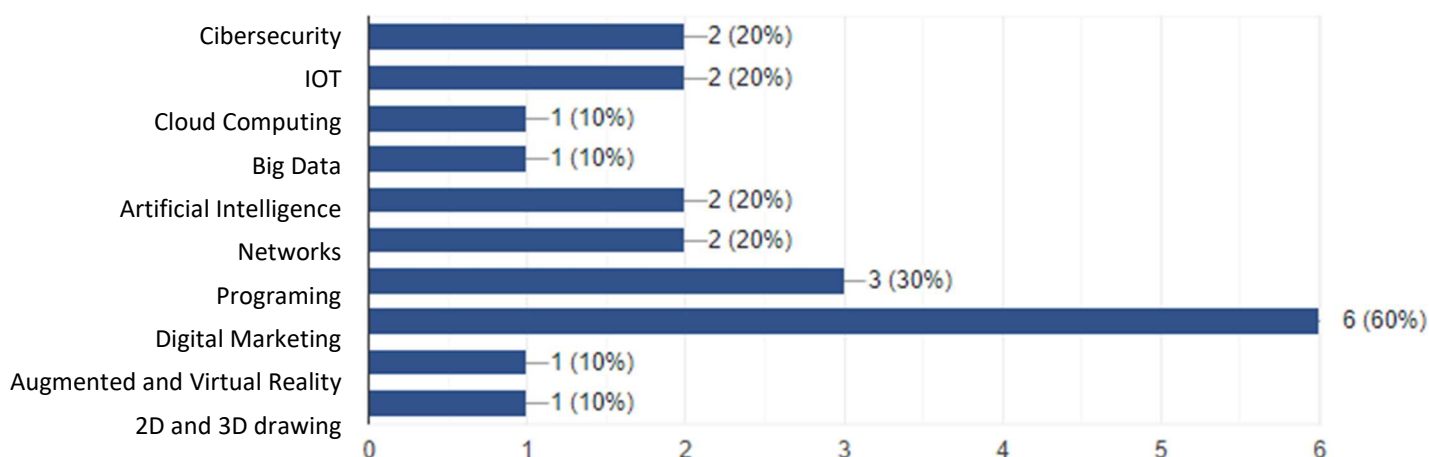


4. TRAINING AND DEVELOPMENT

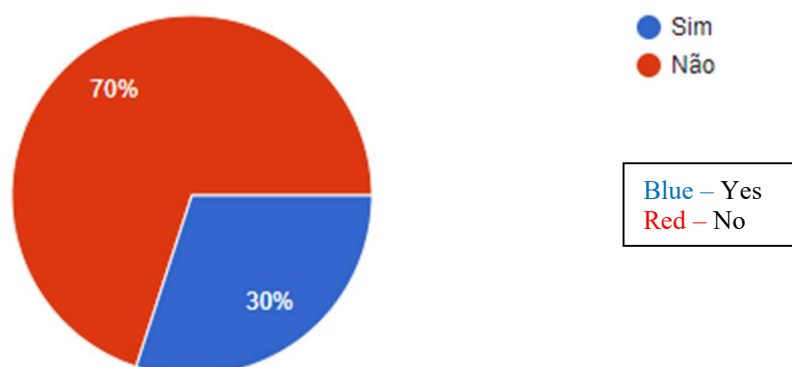
4.1. Are you satisfied with the training programs available that address specific skills requirements for Industry 4.0?



4.2. From the following training areas associated with Industry 4.0, select the ones that you have already operationalized in your organization?



4.3. Is there training offer related to Industry 4.0 in your area?



4.4. What are the most important aspects you consider when evaluating the effectiveness of a vocational education and training program in preparing people for a career in Industry 4.0?

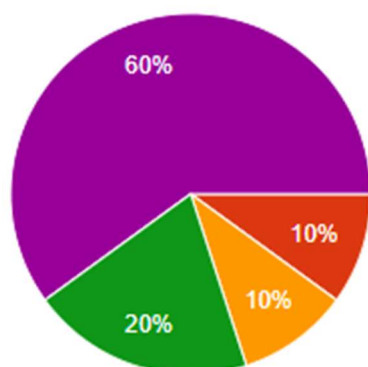
- Application of knowledge in a work context
- Hands on. Cases
- Technology implementation and return on investment
- Ease of teaching
- It is important to update employees and maintain production efficiency.
- The program must provide practical training in relevant technical skills, using modern tools and equipment and a combination of face-to-face and online teaching for greater flexibility and reach
- The content should focus more on practical classes
- Application of knowledge
- Intensive, short-term, high-quality training.

5. FUTURE PRESPECTIVES

5.1. What specific skills or areas of knowledge do you consider should be a priority in the development of new education and professional training programs focused on Industry 4.0?

- Artificial Intelligence and Cloud Computing
- Artificial Intelligence and Cibersecurity
- Artificial Intelligence
- IOT, Big Data and Artificial Intelligence
- Operational training
- Operational training in handling new technologies
- Training in property management systems and integration with other management technologies. Knowledge of cybersecurity and network management. Data analysis.
- New marketing technologies

5.2. What value do you place on collaboration between industry stakeholders and vocational education and training institutions in developing and delivering Industry 4.0 training programs?

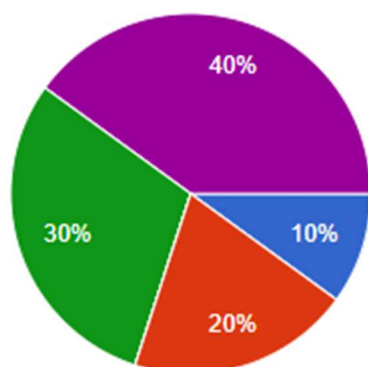


- Muito pouco relevante
- Pouco relevante
- Neutro
- Relevante
- Muito relevante

Blue – Not relevant
Red – Poor relevance
Yellow – Neutral
Green – Relevant
Purple – Very relevant

6. IMPORTANCE OF SKILLS

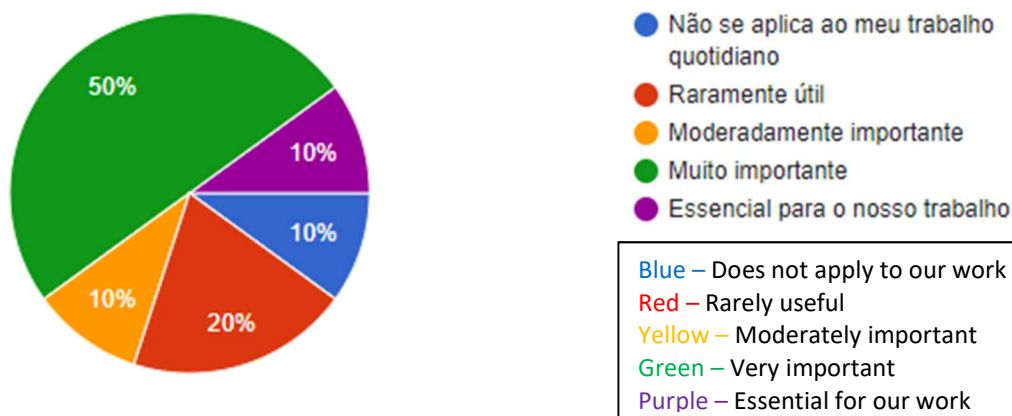
6.1. Data Analysis and Interpretation: Ability to collect, analyze and use data to make informed decisions.



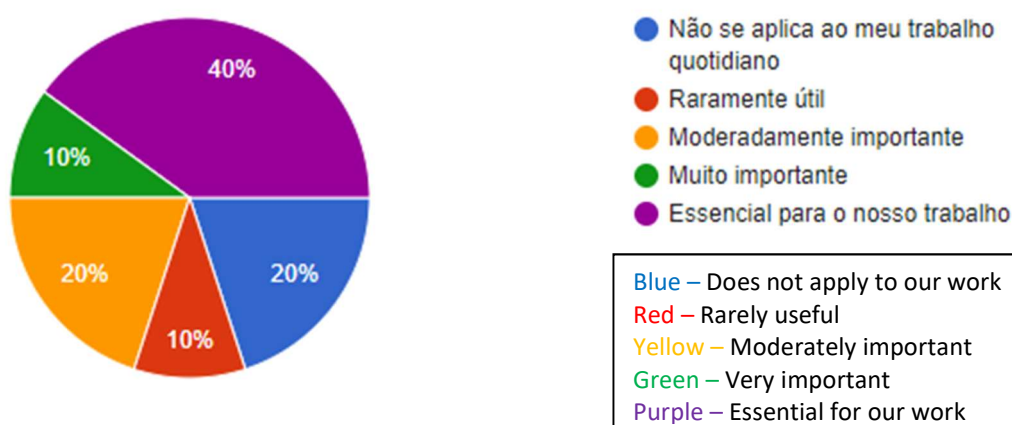
- Não se aplica ao meu trabalho quotidiano
- Raramente útil
- Moderadamente importante
- Muito importante
- Essencial para o nosso trabalho

Blue – Does not apply to our work
Red – Rarely useful
Yellow – Moderately important
Green – Very important
Purple – Essential for our work

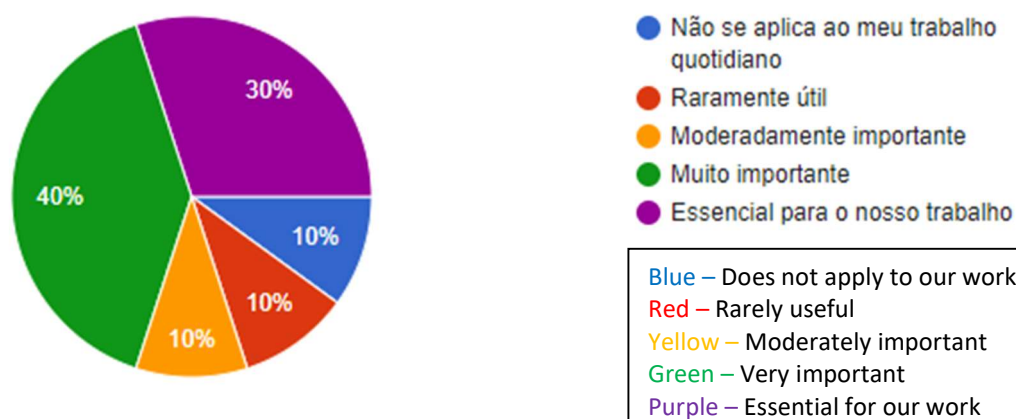
6.2. IOT Integration: Skills in process and business modeling in digital environments, use of simulations for industrial solutions.



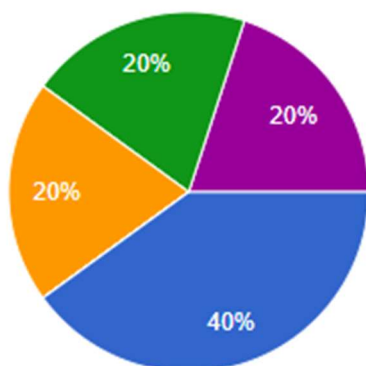
6.3. Supply chain integration: understanding how the supply chain works and how to be part of it effectively, defining what data is relevant for analysis in the supply chain, knowledge of IoT.



6.4. Cybersecurity Awareness: Understanding cybersecurity threats and measures to protect sensitive information in an Industry 4.0 environment.



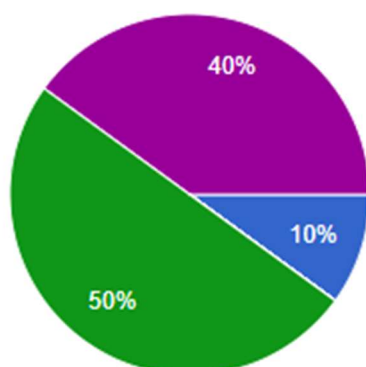
6.5. Robotics and automation: Knowledge of the implementation and operation of automated systems and robotics solutions in a manufacturing context.



- Não se aplica ao meu trabalho quotidiano
- Raramente útil
- Moderadamente importante
- Muito importante
- Essencial para o nosso trabalho

Blue – Does not apply to our work
Red – Rarely useful
Yellow – Moderately important
Green – Very important
Purple – Essential for our work

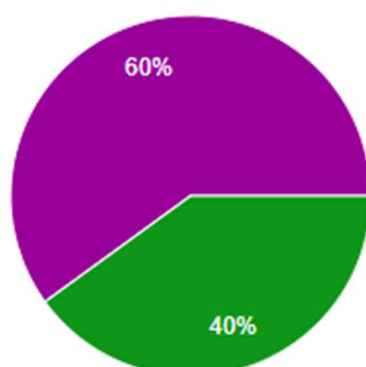
6.6. Problem solving and critical thinking: Ability to identify solutions to complex problems in an Industry 4.0 environment.



- Não se aplica ao meu trabalho quotidiano
- Raramente útil
- Moderadamente importante
- Muito importante
- Essencial para o nosso trabalho

Blue – Does not apply to our work
Red – Rarely useful
Yellow – Moderately important
Green – Very important
Purple – Essential for our work

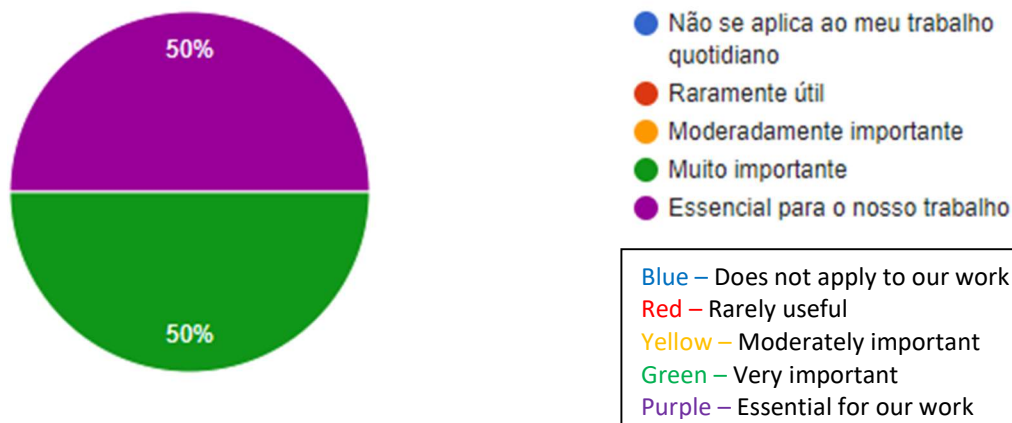
6.7. Teamwork and Collaboration: Ability to work effectively with others in a dynamic and technologically advanced workplace.



- Não se aplica ao meu trabalho quotidiano
- Raramente útil
- Moderadamente importante
- Muito importante
- Essencial para o nosso trabalho

Blue – Does not apply to our work
Red – Rarely useful
Yellow – Moderately important
Green – Very important
Purple – Essential for our work

6.8. Adaptability and openness to change: Willingness and ability to adapt to new technologies and processes in an Industry 4.0 context.



Interviews after the survey:

C4G conducted in-depth interviews with two companies, QPC and Conceptwin, on July 3rd and 4th. The main discussion points included the lack of AI training for SMEs and understanding how AI can be effectively integrated into industry processes. Additionally, how to formulate AI prompts to obtain accurate responses and cybersecurity issues related to text messages, emails, and other communication within factories and companies were discussed.

Next pilots

C4G implemented two microcredentials related with Artificial intelligence.

4. 2 PILOTS - CHATGPT INTRODUCTION AND ADVANCED PROMPTING

Programa de Formação: Introdução ChatGPT

Duração: 1h

Objetivos Gerais:

1. Compreender os fundamentos da inteligência artificial com foco específico no ChatGPT.
2. Explorar as funcionalidades, benefícios e configurações do ChatGPT.
3. Capacitar os participantes na criação de prompts eficazes para maximizar o uso do ChatGPT.

Objetivos Específicos:

Ao final da formação, os participantes serão capazes de:

- Definir e explicar o conceito de inteligência artificial e sua aplicação no ChatGPT.
- Descrever as principais funcionalidades e benefícios do ChatGPT.
- Navegar e configurar a interface do ChatGPT de forma eficaz.
- Criar prompts claros e eficazes para gerar resultados precisos e relevantes.
- Aplicar o ChatGPT em diferentes cenários de uso, como suporte ao cliente, produtividade e criação de conteúdo.

Programa e Conteúdos:

1. Introdução ao ChatGPT
 - O que é a Inteligência Artificial?
 - O que é o ChatGPT?
 - Quais os Benefícios do Chat GPT?
 - Quais os principais resultados?
2. Interface e configurações do ChatGPT

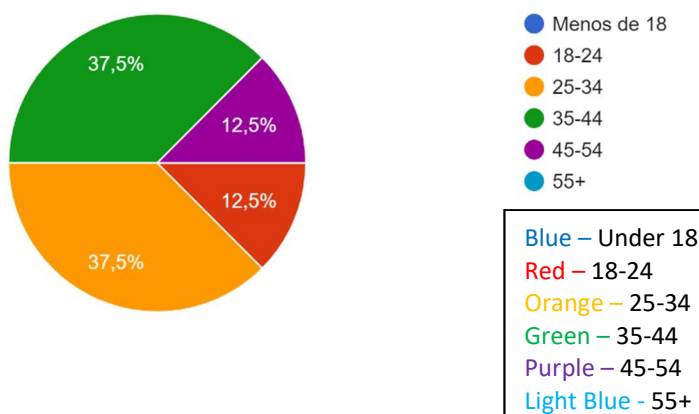
Formação > Documentos > 1_Execucao fisica > Projeto Magic - Microcredenciais > Microcredencial 1_Introdução ao ChatGPT

Nome	Modificado	Modificado por
Atividades Micoo_versao 3.docx	23 de setembro	Debora Almeida
C4G Microcredencial 1_Introdução ao ChatGPT.pptx	10 de setembro	Debora Almeida
Exercicios_Introducao ao ChatGPT.docx	30 de agosto	Hugo Romão
Programa de Formação_Introdução ao ChatGPT.docx	30 de agosto	Hugo Romão
Programa de Formação_Introdução ao ChatGPT_v1.docx	12 de setembro	Debora Almeida
Programa de Formacao_v1.pdf	12 de setembro	Debora Almeida
Questionário de Avaliação Final.docx	30 de agosto	Hugo Romão
Questionário de Avaliação Inicial.docx	30 de agosto	Hugo Romão

After completing the Microcredentials, a platform evaluation questionnaire was sent to the trainees, resulting in 8 responses with the following results:

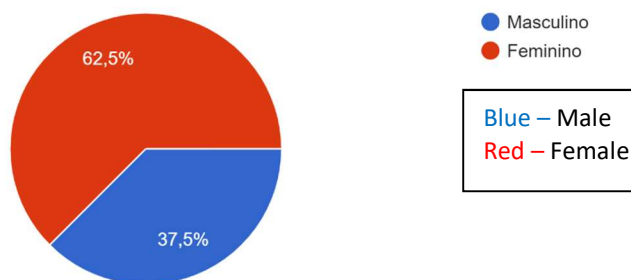
1.1 - Age

8 respostas



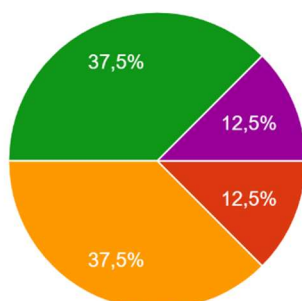
1.2 – Gender

8 respostas



1.3 – Level of Education

8 respostas

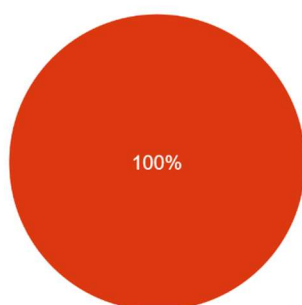


- Ensino Primário
- Ensino Secundário
- Licenciatura
- Mestrado
- Doutoramento

Blue – Primary Education
Red – Secondary Education
Orange – Bachelor's Degree
Green – Master's Degree
Purple – PhD

1.4 - Employment Status

8 respostas

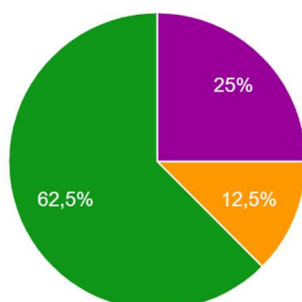


- Estudante
- Empregado
- Desempregado
- Reformado

Blue – Student
Red – Employed
Orange – Unemployed
Green – Retired

2.1 - Do you find the platform navigation intuitive?

8 respostas

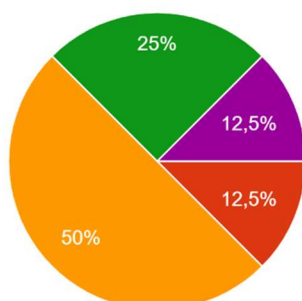


- Muito difícil de navegar
- Difícil de navegar
- Neutro
- Fácil de navegar
- Muito fácil de navegar

Blue – Very difficult to navigate
Red – Difficult to navigate
Orange – Neutral
Green – Easy to navigate
Purple – Very easy to navigate

2.2 - How do you evaluate the clarity of the instructions provided on the platform?

8 respostas

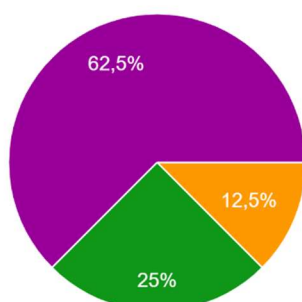


- Muito pouco claras
- Pouco claras
- Neutro
- Claras
- Muito claras

Blue – Very unclear
Red – Somewhat unclear
Orange – Neutral
Green – Clear
Purple – Very clear

2.3 - How do you rate the speed and performance of the platform?

8 respostas

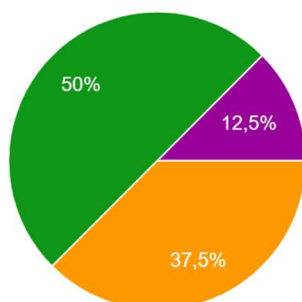


- Muito lenta
- Lenta
- Neutro
- Rápida
- Muito rápida

Blue – Very slow
Red – Slow
Orange – Neutral
Green – Fast
Purple – Very fast

2.4 - What is your level of satisfaction with the features available on the platform?

8 respostas

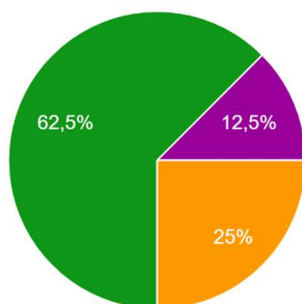


- Muito insatisfeito
- Insatisfeito
- Neutro
- Satisfeito
- Muito satisfeito

Blue – Very dissatisfied
Red – Dissatisfied
Orange – Neutral
Green – Satisfied
Purple – Very satisfied

2.5 - Did the platform's design (layout and organization) help keep you engaged during the training?

8 respostas



- Nada envolvente
- Pouco envolvente
- Neutro
- Envolvente
- Muito envolvente

Blue – Not engaging at all
Red – Slightly engaging
Orange – Neutral
Green – Engaging
Purple – Very engaging