

VALIDATION OF THE DEFINED JOINT CURRICULUM

DESIGN4CIRCLE

Grant Agreement number 2018-1-LV01-KA202-046977



Co-funded by the
Erasmus+ Programme
of the European Union



circular economy
design training
in the textile and
footwear industries



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Grant Agreement No: 2018-1-LV01-KA202-046977
Innovative design practices for achieving
a new textile circular sector



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VALIDATION OF THE DEFINED JOINT CURRICULUM

Project Title **Innovative design practices for achieving a new
textile circular sector**

Project Acronym **Design4Circle**

Reference Number **2018-1-LV01-KA202-046977**

Project Duration **01.12.2018 – 30.11.2020**

Project Partners

- P1 RIGA TECHNICAL UNIVERSITY – RTU (Latvia)**
- P2 TECHNICAL UNIVERSITY OF IASI – TUIASI (Romania)**
- P3 ECORES SPRL – ECORES (Belgium)**
- P4 AGRUPACION EMPRESARIAL INNOVADORA DE FABRICANTES DE MUEBLES Y
AFINES DE LA REGION DE MURCIA- AMUEBLA (Spain)**
- P5 CENTRO TECNOLOGICO DE CALCADO DE PORTUGAL – CTCP (Portugal)**
- P6 TEXTILE TRADE ASSOCIATION – TEXTILE CLUSTER – TTA-TC (Macedonia)**

METHODOLOGY FOR VALIDATION OF THE DEFINED JOINT CURRICULUM

For the validation of defined Joint Curriculum **Quantitative method** (surveys among SMEs, business associations, etc.) have been used in purpose to collect general opinions and **Quality method** (interviews with key persons, teachers, experts) in purpose to get in-depth insight into defined Joint Curriculum.

The survey has been organized by each project partner (except ECORES) with sending the document: **Draft version of defined Joint Curriculum** to their members and institutions (SMEs, business associations, training centres) or collaborators (teachers and experts). The draft document has been developed by RTU in close cooperation with TUISI.

The interviews have been conducted by phone or personally, by all project partners (except ECORES) among 2-4 key stakeholders such as teachers, experts, VET and University representatives or HRD support organizations. Prior to the interview, info with the draft Joint Curriculum has been delivered to the selected persons. The interview was conducted in the period of two weeks from the date of delivering of draft Joint Curriculum. AMUEBLA, CTCP and TTA were focused on SMEs, business association and other BSO and collected info from at least 15 participants per each country. RTU and TUIASI focused on teachers and experts and collected info from at least 10 participants per each organization, with focus on teachers and experts. The participants had opportunity to comment and give feedback on the drafted Joint Curriculum.

After finishing of the survey and interviews, each partner drafted a summary report with the preliminary findings, comments and suggestions. TTA compiled all the information in a final report with main conclusions and changes in purpose to be implemented in the previous develop Joint Curriculum. The final report has been delivered to all project partners for comments and final conclusions. On a base of final conclusions RTU developed the final Joint Curriculum.

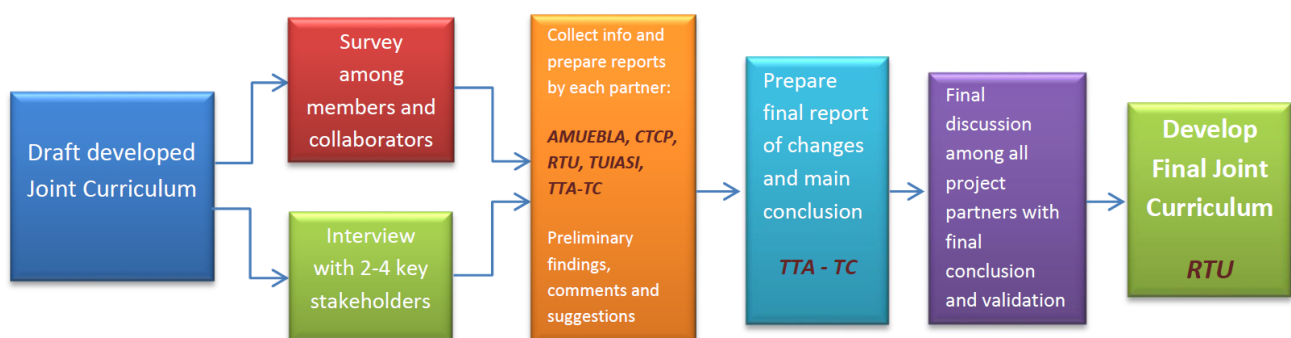


Figure 1. Methodology of Joint Curriculum validation



SURVEY RESULTS

For the validation of defined Joint Curriculum a surveys among SMEs, business support organisations, VET centres, educational institutions, experts etc. were distributed in purpose to collect general opinions and to get in-depth insight into defined Joint Curriculum. The survey was organized on line by each project partner (except ECORES) and was replied by **43 persons from 26 companies, 16 educational institutions and 1 business support organisation**. Below the results of the survey are described.

Most of the companies agree that the chosen modules, lessons and topics are essential to the textile and fashion SMEs and that textile and fashion companies will acquire the necessary knowledge on how to work towards a circular economy. Furthermore, most of the companies agree that designated modules will increase HR excellence, it will facilitate the implementation of sustainable practices in the textile industry, and it will encourage new business opportunities.

On the question: "Do you miss any main topic that it is not addressed in the defined "Joint Curriculum?", the following suggestions were received:

1. Final cost of product (result of circular economy) / market share for this type of product / target customers / how much more is the customer prepared to pay for a "circular product".
2. Design of interior

On the question: "Do you know about any similar training and/or education opportunity that can cover one or more proposed modules?", the following replays were receive:

1. European Project FURN360
2. Local NGO, "Mai Bine" develops programs related to the sustainability topic.
3. ECOTEX
4. Cradle to Cradle or Disruptive Design

On the question: "Do you foresee the transference of the training modules from fashion cluster to other sector?", the following replays were received:

1. Any sector of industry.
2. Other kind of manufacture like wood.

3. Furniture.
4. Interior design.
5. To furniture system, especially regarding the topics of waste management / new business models.
6. Architecture.
7. Engineering and technology industries.

On the question: "Do you consider that the content of the modules offers understandable and enough information regarding eco-design and eco-innovation principles for fashion and textile, or what can be add?", the following answers were received:

1. Materials, design, business are different.
2. Design for circularity, disruptive design.

On the question for duration of the course the following suggestions were received:

1. 40 hours of learning, 40 self-study
2. 150 hours, 30% theory, 60% practice and 10% assessment

Bellow the final comments and recommendations received:

1. The tutors involved in the course should join in a start-up company with the aim of producing and checking the viability of the circular economy products as of current year.
2. Very happy to hear that finally we can be part of a better future for our country and our children.
3. The idea for the training is great. The basis is the schools. Young people need to have knowledge in this area of why they will work and run businesses in the future. Eco-design and circular economy are the future.
4. I believe that project is a plus for the textile industry, for education and for progress in science.
5. Open new opportunities to develop the business.
6. The course is very well structured.
7. The Curriculum contains seven structured and significant modules. The European context in education has been respected. The program complies with competency-based learning requirements, defines learning outcomes, offers online learning while also providing opportunity for independent work.
8. The Curriculum is designed in terms of important areas of knowledge. The Curriculum has been drafted with a clear definition of necessary learning outcomes.
9. A joint curriculum on Eco-design for the circular economy in the textile and fashion industries is necessary. It will significantly enhance designers' and students' knowledge, by improving or updating their



- knowledge, and / or skills on eco-design and circular economy principles, from the textile and fashion sector standpoint.
10. The course will be of great benefit to the textile industry.
 11. The curriculum is great. We recommend to emphasize that the companies must invest in technology for recycling of waste that they are producing. There is an excellent grant for technology development with 70% co-financing for procurement of new technology. On that way we can help in solving the global issue connected with textile waste.
 12. We hope that the course will contribute for awareness for circular economy so we look forward to see how it will work out.
 13. More frequently use in practice.

Conclusions

On a base of realised survey, it is concluded that the 'Joint curriculum' address the needs of fashion and textile companies to implement the necessary changes for a transition to a circular economy, the chosen modules, lessons and topics are essential to the textile and fashion SMEs and will encourage new business opportunities.

The participants at the survey pointed some missing topics such as design of interior or calculation of final cost of product, which should be considered to be covered in the modules.

All 7 modules are from the interest of the fashion and textile industry with the accent on sustainability, design and recycling. There are not much similar training and/or education opportunity, but still some project is covering parts of one or more proposed modules, such as: European Project FURN360, ECOTEX and Cradle to Cradle or Disruptive Design.

Furthermore, there is high possibility for transference of the training modules from fashion cluster to other sectors, including manufacturing of wood, furniture and interior design as well as shoes production.

The modules offer understandable and enough information regarding eco-design and eco-innovation principles for fashion and textile industries and the course training programme respond to the company's needs in terms of materials for a circular economy and in terms of manufacturing processes in line with responsible thinking.



It is concluded that this online course will implement an interactive pedagogical approach i.e. videos, info graphics, slide etc. The use of the course will greatly increase the number of participants and will help fashion companies for better understanding of the circular economy and will contribute in the transition into a circular economy business model.

The total duration of the course was determinate as enough, with suggestion of: 40 hours of learning and 40 hours of self-study. Also it was suggested total duration of 150 hours (30% theory, 60% practice and 10% assessment).

Final conclusion: The draft joint curriculum is validated by the participants at the survey as acceptable with minor suggestions. It should be further deciding for transparency to other sectors such as wood, furniture, interior design and shoes production.



ANNEX 1

DESIGN4CIRCLE – VALIDATION OF TRAINING CURRICULUM – STAKEHOLDERS SURVEY RESULTS

43

Responses

259:20

Average time to complete

Active

Status

1. DATA OF THE PARTICIPANT. Please write Name of your organization

43

Responses

Latest Responses

"Faculty of business economy"

"KULI PRILEP"

"AMORTEX "

2. DATA OF THE PARTICIPANT. Please write your position

43

Responses

Latest Responses

"Lecturer"

"Owner"

"Owner"

3. DATA OF THE PARTICIPANT. Please write the country where your company is located.

43

Responses

Latest Responses

"Republic of Macedonia"

"North Macedonia"

"North Macedonia"



4. DATA OF THE PARTICIPANT. Please write the sector (textile, apparel, footwear, furniture, etc)

43
Responses

Latest Responses
"Business management"
"Textile"
"Textile"

5. In your opinion do you think the attached draft of the 'Joint curriculum' address the needs of fashion and textile companies to implement the necessary changes for a transition to a circular economy

Greatly address the needs	29
Somewhat address the needs	13
Partially address the needs	1
Does not address the needs	0



6. Please rate your satisfaction level with the following aspects of our event.

Strongly agree Agree Neutral Disagree Strongly disagree

The chosen modules, lessons and topics are essential to the textile and fashion SMEs

Textile and fashion companies will acquire the necessary knowledge on how to work towards a ...

The use of the designated modules will increase HR excellence and advance distance learning ...

The Joint Curriculum will facilitate the implementation of sustainable practices in the textile industry and ne...

The described Joint Curriculum will encourage new business opportunities

The necessary knowledge, skills and competences towards a circular textile industry have been outline...





7. Do you miss any main topic that it is not addressed in the defined "Joint Curriculum"?



8. In case of "YES" on the previous question, please explain what main topic do you consider is not addressed?

4

Responses

Latest Responses

9. Please rank in order, 1 to 5 (with 5 being the highest) the necessity and interest for the fashion and textile industry on each of the defined modules

1 2 3 4 5

Module 1. Introduction to circular economy

Module 2. Sustainability challenges in the textile and fashion industry

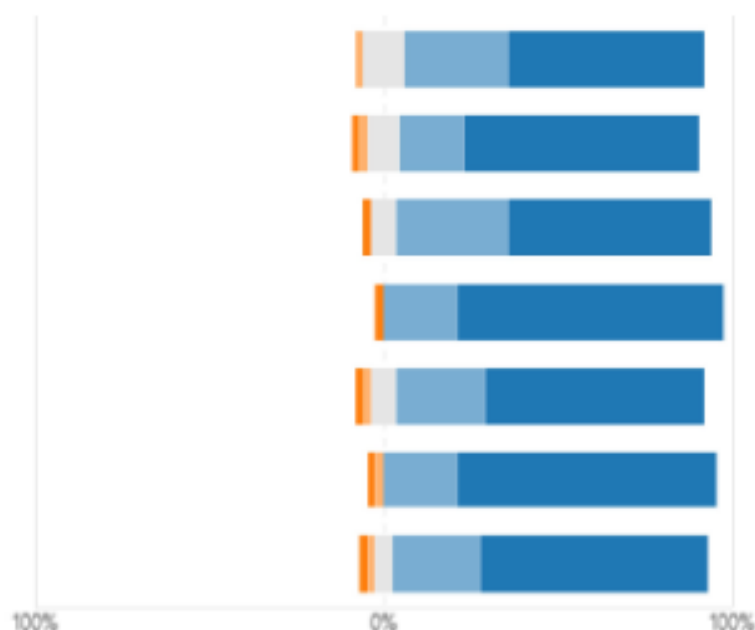
Module 3. Materials for a circular economy

Module 4. Design for a circular economy

Module 5. Manufacture for a circular economy

Module 6. Recycling technologies in a textile and fashion industry

Module 7. Business management in a circular economy





10. Do you know about any similar training and/or education opportunity that can cover one or more proposed modules?



11. In case of "YES" on previous question, please explain which modules?

6

Responses

Latest Responses

12. Do you foresee the transference of the training modules from fashion cluster to other sector?



13. In case of "YES" on previous question, please explain to which sector?

15

Responses

Latest Responses

"Information technology"



14. Do you consider that the content of the modules offers understandable and enough information regarding eco-design and eco-innovation principles for fashion and textile industries?



15. In case of "NO" on previous question, please explain what should we add or change?

4

Responses

Latest Responses

16. Do you consider the course training programme to respond to the need of your organization in terms of materials for a circular economy?



17. In case of "NO" on previous question, please explain what should we include?

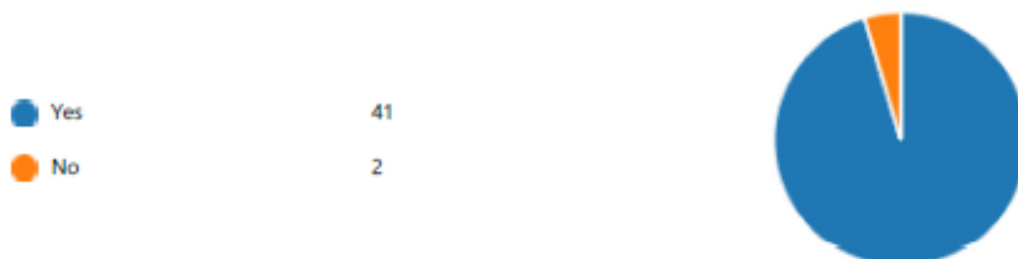
2

Responses

Latest Responses



18. Do you consider the course training programme to respond to the need of your organization in terms of manufacturing processes in line with responsible thinking?



19. In case of "NO" on previous question, please explain what should we include?

3
Responses

Latest Responses

20. Please indicate in your opinion if you agree or disagree with the following statements

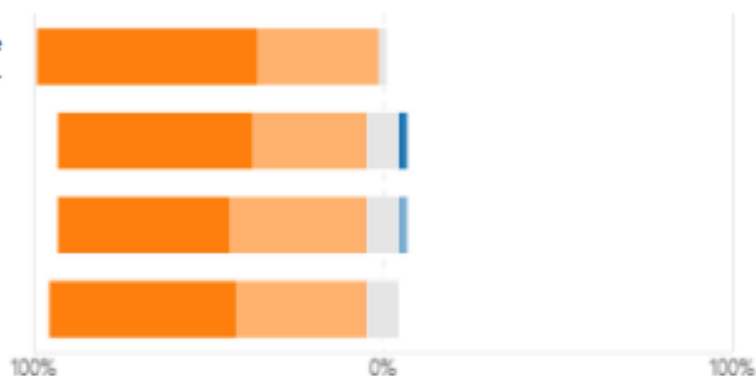
Strongly agree Agree Neutral Disagree Strongly disagree

It is essential that this course implement an interactive pedagogical approach i.e. videos, info graphics, slide...

The learning outcome should be easily assessed through quizzes and tests

The use of the designated modules will increase HR excellence and advance distance learning ...

This course should give some form for recognition i.e. certificate





21. Please rank from 1 to 5 (with 5 being the highest) the key drivers for fashion and textile companies moving forward with 'Joint curriculum'

1 2 3 4 5

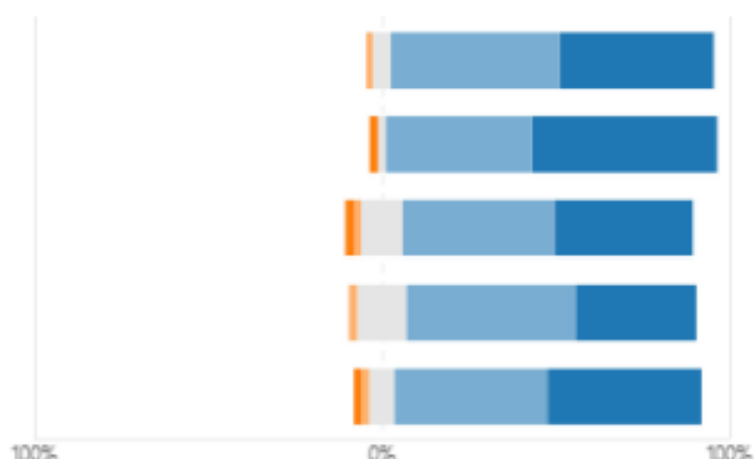
The general participant will be satisfied with the knowledge obtained from the training

The use of an online course will greatly increase the number of participants and contribute to a better ...

This course will help fashion companies in the transition into a circular economy business model

The specified modules and their associated topics present a coherent structure which form a clear ...

The knowledge /competencies of this course will easily transfer new skills to all attendants



22. Please rank from 1 to 5 (with 5 being the highest) the key drivers for fashion and textile companies moving forward with 'Joint curriculum'

1 2 3 4 5

The lessons are not complementary to each other and do not meet the needs of the textile and fashion ...

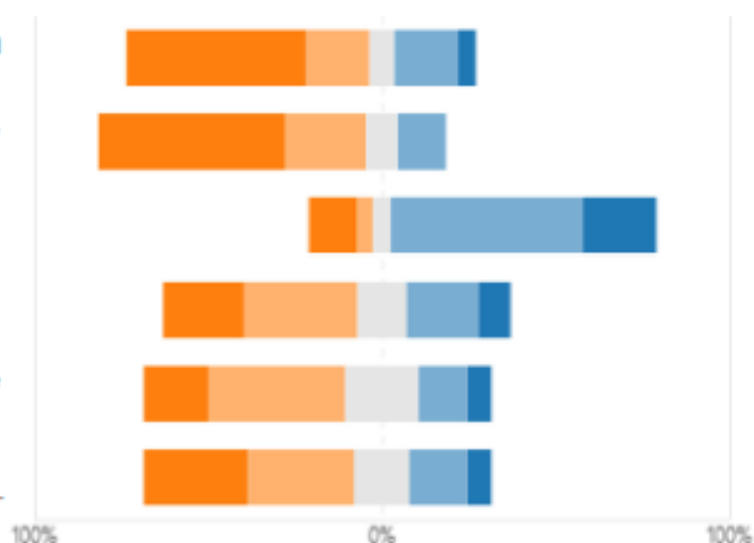
The topics covered in this course will not add value to my learning outcomes

This course will help fashion companies in the transition into a circular economy business model

The materials designed for such a course will be difficult to manage and deliver

The modules presented will take up a significant large amount of my time resulting in loss of productivity

Whether this course is implemented or not it will not have a significant impact on the textile industry retur...





23. The total duration of the course is 140 hours (70 learning hours and 70 self-study hours). Do you think it is:

Enough	36
More than enough	7
Not enough	0



24. Please give recommendation for total duration of the course

13
Responses

Latest Responses
"Duration is O.K "

25. Please add any comment on the 'Design 4 circle Joint Curriculum' that you consider:

17
Responses

Latest Responses
"More frequently use in practice"
"We hope that the course will contribute for awareness for circular eco..."

ANNEX 2

DESIGN4CIRCLE - VALIDATION OF TRAINING CURRICULUM - STAKEHOLDERS SURVEY

Please, complete the following survey about the Joint Curriculum on circular economy for the textile and fashion sector developed in the framework of the Design4circle, Erasmus+ project.

The answers are strictly confidential and will be only shared with the project partners. Questionnaire data will be only treated in conjunction with other responses.

Please, check the Joint Curriculum overview before answering the questionnaire

DATA OF THE PARTICIPANT

Name of your organization:

Position:

Country:

Sector:

QUESTIONNAIRE

1. In your opinion do you think the attached draft of the 'Joint curriculum' address the needs of fashion and textile companies to implement the necessary changes for a transition to a circular economy

a)	Greatly address the needs	
b)	Somewhat address the needs	
c)	Partially address the needs	
d)	Does not address the needs	

Please give reason for your answer: _____

2. Please indicate in your opinion on the following perceived benefits of the 'Joint curriculum'

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
The chosen modules, lessons and topics are essential to the textile and fashion SMEs					

Textile and fashion companies will acquire the necessary knowledge on how to work towards a circular company					
The use of the designated modules will increase HR excellence and advance distance learning opportunities					
The Joint Curriculum will facilitate the implementation of sustainable practices in the textile industry and new green products					
The described Joint Curriculum will encourage new business opportunities					
The necessary knowledge, skills and competences towards a circular textile industry have been outlined in the 'Joint curriculum'					

3. Please rank in order, 1 to 5 (with 5 being the highest) the necessity and interest for the fashion and textile industry on each of the defined modules

	1	2	3	4	5
Module 1. Introduction to circular economy					
Module 2. Sustainability challenges in the textile and fashion industry					
Module 3. Materials for a circular economy					
Module 4. Design for a circular economy					
Module 5. Manufacture for a circular economy					
Module 6. Recycling technologies in a textile and fashion industry					
Module 7. Business management in a circular economy					

4. Do you miss any main topic that it is not addressed in the defined "Joint Curriculum"?

Yes	
No	

In case of "YES", what topic do you consider is not addressed? _____

5. Please rank in order, 1 to 5 (with 5 being the highest) the necessity and interest for the textile and fashion industry on each of the defined units

	1	2	3	4	5
1.1 Introduction to circular economy					
1.2 Concept and principles of circular economy					
1.3 Current state of policies at EU level					
	1	2	3	4	5
2.1 Alarming trends in textile and leather industry in terms of waste and environmental issues and social impact					
2.2 Sustainability and environmental management					
2.3 People health and safety					
2.4 Waste, package and environment according to the national and EU regulations					
2.5 Ethical production					
	1	2	3	4	5
3.1 Sustainable textile and non-textile materials					
3.2 Textile waste as raw material for upcycling					
3.3 Recycled textiles					
	1	2	3	4	5
4.1 Products life cycle, eco-design fundamentals and principles of circular fashion					
4.2 Eco-design principles in fashion and textile industry					
	1	2	3	4	5
5.1. Manufacture processes for a circular economy					
5.2 Environmentally friendly production					
5.3 Clean technologies production					
5.4 Services to support long life					
	1	2	3	4	5
6.1 The basics of textile recycling					
6.2 Textile waste collection, sorting and preparation for recycling					
6.3 Technology for textile recycling					
	1	2	3	4	5
7.1 Entrepreneurship and new business models for circular economy					
7.2 Marketing and user centred approaches					
7.3 Systems thinking and networking					
7.4 Corporate social responsibility (CSR, also called corporate sustainability)					
7.5 Sustainability performance indicators and guidelines					

6. Do you miss any specific topic that it is not addressed in the defined "Joint Curriculum"?

Yes	
No	

In case of "YES", what topic do you consider is not addressed? _____

7. Do you know about any similar training and/or education opportunity that can cover one or more proposed modules?

Yes	
No	

In case of "YES", which modules? _____

8. Do you foresee the transference of the training modules from fashion cluster to other sector?

Yes	
No	

In case of "YES", to which sector? _____

9. Do you consider that the content of the modules offers understandable and enough information regarding eco-design and eco-innovation principles for fashion and textile industries?

Yes	
No	

In case of "NO", what should we add or change? _____

10. Do you consider the course training programme to respond to the need of your company in terms of:

- Materials for a circular economy?

Yes	
No	

In case of "NO", what should we include? _____

- Manufacturing processes in line with responsible thinking?

Yes	
No	

In case of "NO", what should we include? _____

11. Please indicate in your opinion if you agree or disagree with the following statements

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
It is essential that this course implement an interactive pedagogical approach i.e. videos, infographics, slide presentations, etc.					
The learning outcome should be easily accessed through quizzes and tests					
This course should give some form for recognition i.e. certificate					
The defined course could be interesting for learners from different sectors than the textile and fashion industry					

12. Please rank in order, 1 to 5 (with 5 being the highest) the key drivers for fashion and textile companies moving forward with 'Joint curriculum'

	1	2	3	4	5
The general participant will be satisfied with the knowledge obtained from the training					
The use of an online course will greatly increase the number of participants and contribute to a better learning experience					
This course will help fashion companies in the transition into a circular economy business model					
The specified modules and their associated topics present a coherent structure which form a clear synergy					
The knowledge /competencies of this course will easily transfer new skills to all attendants					

13. Please rank in order, 1 to 5 (with 5 being the highest) the main perceived barriers of this course

	1	2	3	4	5
The lessons are not complementary to each other and do not meet the needs of the textile and fashion industry					
The topics covered in this course will not add value to my learning outcomes					

The materials designed for such a course will be difficult to manage and deliver					
The modules presented will take up a significant large amount of my time resulting in loss of productivity					
Whether this course is implemented or not it will not have a significant impact on the textile industry return of investment (ROI)					

14. The total duration of the course is 140 hours (70 learning hours and 70 self-study hours). Do you think it is?

Enough	
More than enough	
Not enough	

Please give recommendation for total duration of the course _____.

15. Please add any comment on the 'Design 4 circle Joint Curriculum' that you consider: _____