**Finding Endometriosis using Machine Learning:
FEMaLe**
Call/Topic: Digital transformation in Health and Care
Type of action**:** RIA

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1.2	24-05-2023	Second draft created, including recommendations from WP participants.	EQUIP	Drafted
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1.4	23-06-2023	Final draft created, based on FEMaLe Review Panel feedback.	EQUIP	Completed
1.5	30-06-2023	Final version ready for submission, quality checked by FEMaLe PMO.	AU	Validated

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[1] As per the project's cloud storage or per email date if applicable.
[2] Drafted, completed, or validated as per the project's cloud storage or per email date if applicable.

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Disclaimer

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Acknowledgement

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All WP IMA reports M30 – under the supervision of the FEMaLe Project's Coordinator.

Legislation

Legislation H2020 Framework Programme – Regulation (EU) No 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020) (OJ 347, 20.12.2013, p. 104).

H2020 Specific Programme – Council Decision 2013/743/EU of 3 December 2013 establishing the Specific Programme Implementing Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020) (OJ L 347, 20.12.2013, p. 965).

Rules for Participation (RfP) – Regulation (EU) No 1290/2013 of the European Parliament and of the Council of 11 of December 2013 laying down the rules for the participation and dissemination in Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020) (OJ L 347, 20.12.2013, p.81).

Financial Regulation (FR) – Regulation (EC, Euratom) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the European Union (OJ L 298, 26.10.2012, p.1).

Rules of Application (RAP) – Commission Regulation (EC, Euratom) No 1268/2012 of 29 October 2012 on the rules of application of l Regulation (EC, Euratom) No 966/2012 of the European Parliament and of the Council on the financial rules applicable to the general budget of the Union (OJ L 298, 26.10.2012, p.1).

1. ALL WP IMPACT MONITORING & ASSESSMENT REPORTS

This report will contain *impact monitoring and assessment* (IMA) in all work packages (WPs) in the FEMaLe project, covering month 18 to 30. The IMA report contains the following sections: 1) FEMaLe Pulse Checks, 2) Impact Case workshop results, and 3) Half Double evaluation.

The *FEMaLe Pulse Checks* navigates the project by providing insights into the satisfaction of the project members. According to the Half Double Methodology (HDM), Pulse Checks can create the necessary insights and dialogue amongst key stakeholders to ensure continuous focus on impact, energising working conditions, foster collaboration, and promote personal development within the project (Half Double Institute, 2022). The FEMaLe Pulse Checks are using the six questions, as described by HDM, conducted as an online survey through the SurveyXact encrypted software.

The *Impact Case workshops results* provide an overview of how to transform project deliverables into smaller sub-goals. The description includes a hierarchy of goals for the desired impacts and the behavioural impacts that are needed to be observed to realize the overall impact. The Impact Case workshops results will include all WP Impact Cases and action points noted from the workshops.

The *Half Double evaluation* provides insights into how each WP incorporates the HDM to improve and validate project activities. The evaluation has been conducted as a *constructive* evaluation, based on qualitative interviews with the WP leader(s) and the Project Coordinator. The evaluation draws on a multidimensional framework and consists of 17 questions related to the three core HDM elements. During each interview, participants discuss the questions and provide a score, ranging from one to four, to indicate the extent to which they have implemented each of the nine tools. The evaluation lasts two hours and has been carried out online via Zoom.
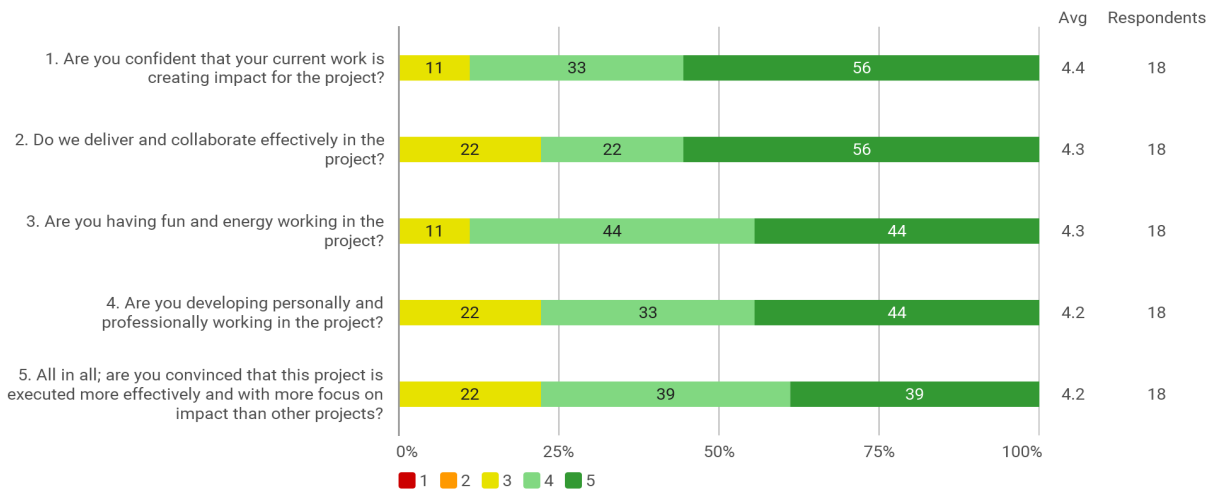
2. FEMaLe Pulse Checks

FEMALE BENEFICIARY (N=17)	RESPONSES (N=40)	PRIMARY WPs (N=10)
AARHUS UNIVERSITET	Y (8)	3,8,10
AARHUS UNIVERSITETSHOSPITAL	Y (2)	6,7
EUROPEAN SOCIETY FOR QUALITY AND PATIENT SAFETY IN GENERAL PRACTICE/FAMILY MEDICINE	Y (2)	1,9
SEMMELWEIS EGYETEM	Y (4)	5,6,7
THE CHANCELLOR, MASTERS, AND SCHOLARS OF THE UNIVERSITY OF OXFORD	Y (3)	4,9
SURGAR	Y (2)	6,7
RIGAS TEHNISKA UNIVERSITATE	Y (1)	4,6,7
KUNGLIGA TEKNISKA HOEGSKOLAN	Y (3)	5
ISTANBUL AVRUPA ARASTIRMALARI DERNEGI	Y (1)	2
PRECISIONLIFE LTD	Y (2)	4
YOURCODE LAB INFORMATIKAI, SZOLGALTATO ES TANACSADO KORLATOLT FELELOSSEGU TARSASAG	Y (1)	5,8
THE UNIVERSITY COURT OF THE UNIVERSITY OF ABERDEEN	Y (2)	3
CORRELATE AS	Y (2)	10
NEMANJA TODIC PREDUZETNIK WEB BAY	Y (2)	9
EGYUTT KONNYEBB NOI EGESZSEGERT ALAPITVANY	Y (1)	2,9
THE UNIVERSITY OF EDINBURGH	Y (2)	3
AALBORG UNIVERSITY	Y (2)	4

17 of 17 (100%) FEMaLe Beneficiaries responded to Pulse Check electronic questionnaire at least once.
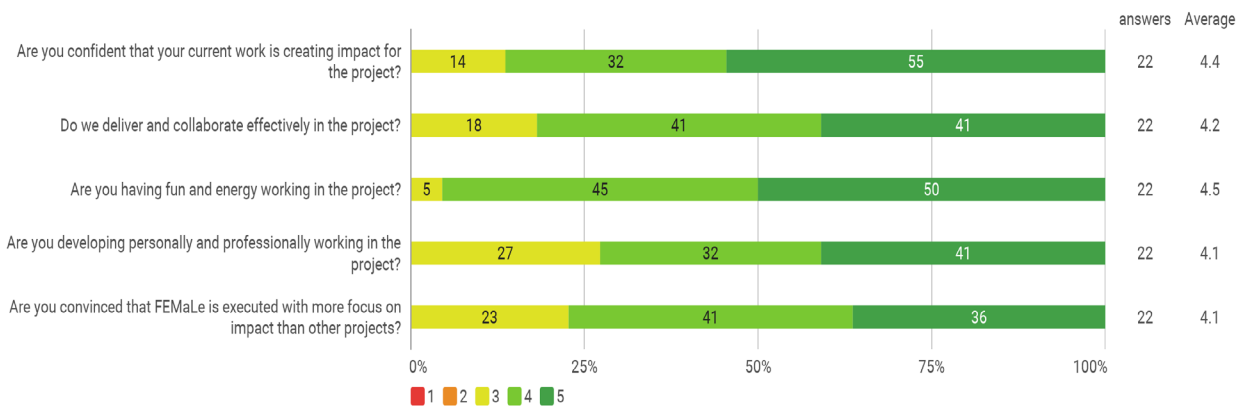
FEMaLe Pulse Check Results: July 2022

18 out of 34 FEMaLers (53%) replied to the Pulse Check electronic questionnaire through SurveyXact, representing 12 of 17 (71%) FEMaLe Beneficiaries, upon which we can draw the following conclusion:

89% are confident that their current work create impact for FEMaLe; average score 4,4 of 5 (**+0,4**).

78% believe that they deliver and collaborate effectively in FEMaLe; average score 4,3 of 5 (**+0,4**).

89% are having fun and get energy out of working in FEMaLe; average score 4,3 of 5 (**-**).

78% are developing personally and professionally working in FEMaLe; average score 4,2 of 5 (**+0,4**).

78% are convinced that FEMaLe focuses on early impact creation; average score 4,2 of 5 (**+0,4**).

	Avg	Respondents
1. Are you confident that your current work is creating impact for the project?	11 / 33 / 56	4.4	18
2. Do we deliver and collaborate effectively in the project?	22 / 22 / 56	4.3	18
3. Are you having fun and energy working in the project?	11 / 44 / 44	4.3	18
4. Are you developing personally and professionally working in the project?	22 / 33 / 44	4.2	18
5. All in all; are you convinced that this project is executed more effectively and with more focus on impact than other projects?	22 / 39 / 39	4.2	18

Legend: ■1 ■2 ■3 ■4 ■5

Score compared to baseline level indicated in brackets.

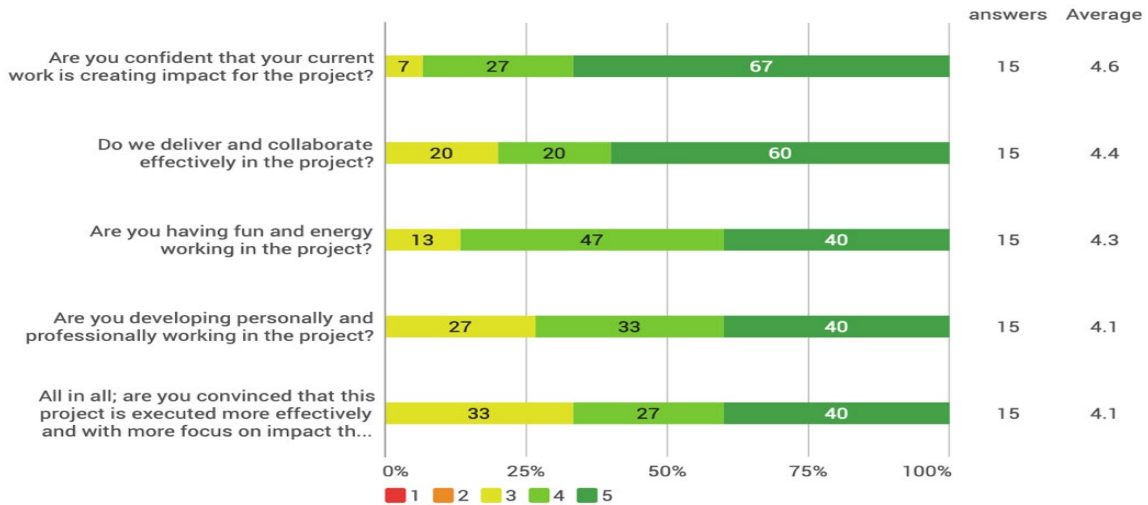## FEMaLe Pulse Check Results: August 2022

22 out of 34 FEMaLers (65%) replied to the Pulse Check electronic questionnaire through SurveyXact, representing 14 of 17 (82%) FEMaLe Beneficiaries, upon which we can draw the following conclusion:

87% are confident that their current work create impact for FEMaLe; average score 4,4 of 5 (**+0,4**).

82% believe that they deliver and collaborate effectively in FEMaLe; average score 4,2 of 5 (**+0,3**).

95% are having fun and get energy out of working in FEMaLe; average score 4,5 of 5 (**+0,2**).

73% are developing personally and professionally working in FEMaLe; average score 4,1 of 5 (**+0,3**).

77% are convinced that FEMaLe focuses on early impact creation; average score 4,1 of 5 (**+0,3**).

	answers	Average
Are you confident that your current work is creating impact for the project?	14 / 32 / 55	22	4.4
Do we deliver and collaborate effectively in the project?	18 / 41 / 41	22	4.2
Are you having fun and energy working in the project?	5 / 45 / 50	22	4.5
Are you developing personally and professionally working in the project?	27 / 32 / 41	22	4.1
Are you convinced that FEMaLe is executed with more focus on impact than other projects?	23 / 41 / 36	22	4.1

Legend: ■1 ■2 ■3 ■4 ■5

Score compared to baseline level indicated in brackets.
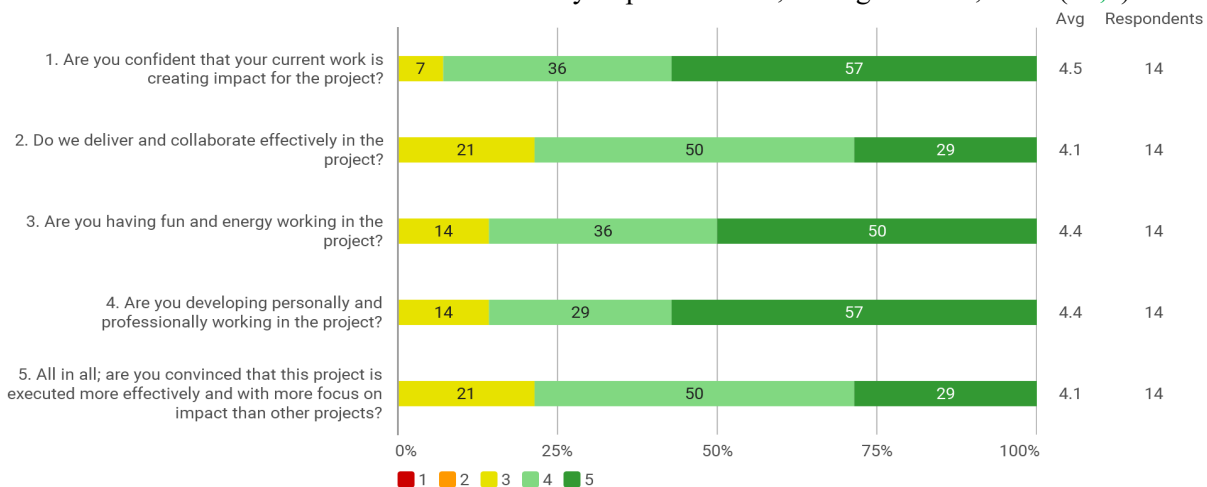
FEMaLe Pulse Check Results: September 2022

15 out of 34 FEMaLers (44%) replied to the Pulse Check electronic questionnaire through SurveyXact, representing 11 of 17 (65%) FEMaLe Beneficiaries, upon which we can draw the following conclusion:

94% are confident that their current work create impact for FEMaLe; average score 4,6 of 5 (**+0,6**).

80% believe that they deliver and collaborate effectively in FEMaLe; average score 4,4 of 5 (**+0,5**).

87% are having fun and get energy out of working in FEMaLe; average score 4,3 of 5 (**-**).

73% are developing personally and professionally working in FEMaLe; average score 4,1 of 5 (**+0,3**).

67% are convinced that FEMaLe focuses on early impact creation; average score 4,1 of 5 (**+0,3**).

	answers	Average
Are you confident that your current work is creating impact for the project?	15	4.6
Do we deliver and collaborate effectively in the project?	15	4.4
Are you having fun and energy working in the project?	15	4.3
Are you developing personally and professionally working in the project?	15	4.1
All in all; are you convinced that this project is executed more effectively and with more focus on impact th...	15	4.1

Score compared to baseline level indicated in brackets.

FEMaLe Pulse Check Results: October 2022

14 out of 34 FEMaLers (41%) replied to the Pulse Check electronic questionnaire through SurveyXact, representing 10 of 17 (59%) FEMaLe Beneficiaries, upon which we can draw the following conclusion:

93% are confident that their current work create impact for FEMaLe; average score 4,5 of 5 (**+0,5**).

79% believe that they deliver and collaborate effectively in FEMaLe; average score 4,1 of 5 (**+0,2**).

86% are having fun and get energy out of working in FEMaLe; average score 4,4 of 5 (**+0,1**).

86% are developing personally and professionally working in FEMaLe; average score 4,4 of 5 (**+0,6**).

79% are convinced that FEMaLe focuses on early impact creation; average score 4,1 of 5 (**+0,3**).

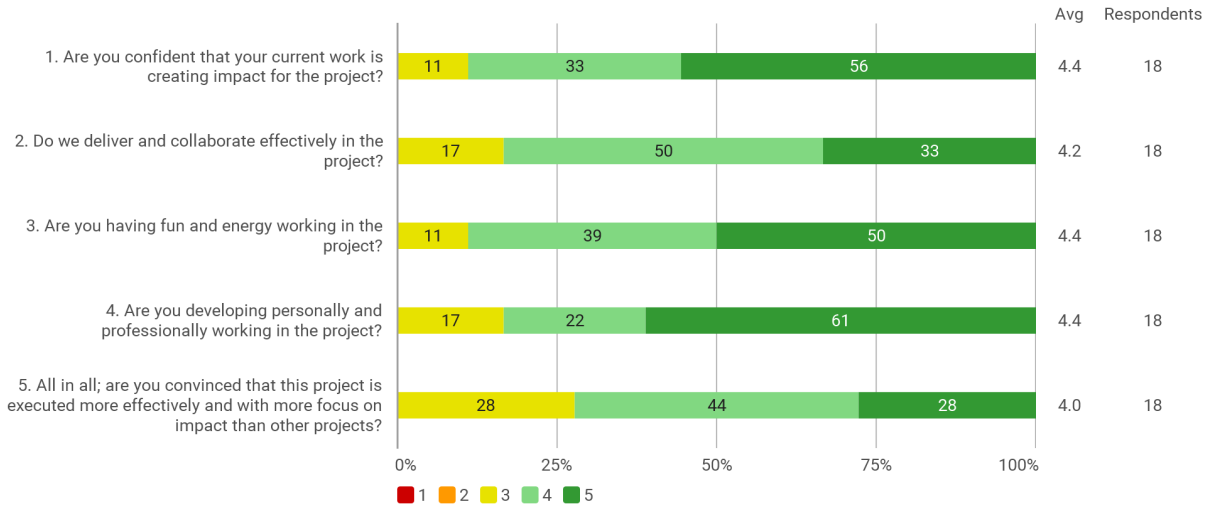|	Avg	Respondents
1. Are you confident that your current work is creating impact for the project?	4.5	14
2. Do we deliver and collaborate effectively in the project?	4.1	14
3. Are you having fun and energy working in the project?	4.4	14
4. Are you developing personally and professionally working in the project?	4.4	14
5. All in all; are you convinced that this project is executed more effectively and with more focus on impact than other projects?	4.1	14

Score compared to baseline level indicated in brackets.
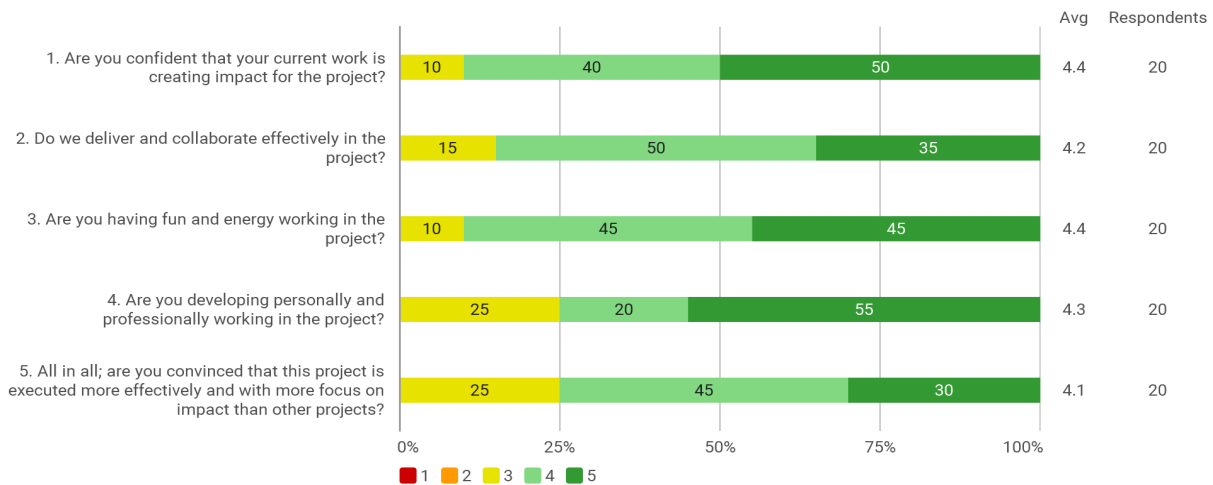
FEMaLe Pulse Check Results: November 2022

18 out of 36 FEMaLers (50%) replied to the Pulse Check electronic questionnaire through SurveyXact, representing 12 of 17 (71%) FEMaLe Beneficiaries, upon which we can draw the following conclusion:

89% are confident that their current work create impact for FEMaLe; average score 4,4 of 5 (**+0,4**).

83% believe that they deliver and collaborate effectively in FEMaLe; average score 4,2 of 5 (**+0,3**).

89% are having fun and get energy out of working in FEMaLe; average score 4,4 of 5 (**+0,1**).

83% are developing personally and professionally working in FEMaLe; average score 4,4 of 5 (**+0,6**).

72% are convinced that FEMaLe focuses on early impact creation; average score 4,0 of 5 (**+0,2**).

Question	Avg	Respondents
1. Are you confident that your current work is creating impact for the project? (11 / 33 / 56)	4.4	18
2. Do we deliver and collaborate effectively in the project? (17 / 50 / 33)	4.2	18
3. Are you having fun and energy working in the project? (11 / 39 / 50)	4.4	18
4. Are you developing personally and professionally working in the project? (17 / 22 / 61)	4.4	18
5. All in all; are you convinced that this project is executed more effectively and with more focus on impact than other projects? (28 / 44 / 28)	4.0	18

Legend: 1 2 3 4 5

Score compared to baseline level indicated in brackets above.

FEMaLe Pulse Check Results: December 2022

20 out of 36 FEMaLers (56%) replied to the Pulse Check electronic questionnaire through SurveyXact, representing 13 of 17 (76%) FEMaLe Beneficiaries, upon which we can draw the following conclusion:

90% are confident that their current work create impact for FEMaLe; average score 4,4 of 5 (**+0,4**).

85% believe that they deliver and collaborate effectively in FEMaLe; average score 4,2 of 5 (**+0,3**).

90% are having fun and get energy out of working in FEMaLe; average score 4,4 of 5 (**+0,1**).

75% are developing personally and professionally working in FEMaLe; average score 4,3 of 5 (**+0,5**).

75% are convinced that FEMaLe focuses on early impact creation; average score 4,1 of 5 (**+0,3**).

| Question	Avg	Respondents
1. Are you confident that your current work is creating impact for the project? (10 / 40 / 50)	4.4	20
2. Do we deliver and collaborate effectively in the project? (15 / 50 / 35)	4.2	20
3. Are you having fun and energy working in the project? (10 / 45 / 45)	4.4	20
4. Are you developing personally and professionally working in the project? (25 / 20 / 55)	4.3	20
5. All in all; are you convinced that this project is executed more effectively and with more focus on impact than other projects? (25 / 45 / 30)	4.1	20

Legend: 1 2 3 4 5

Score compared to baseline level indicated in brackets above.

FEMaLe Pulse Check Results: January 2023

16 out of 39 FEMaLers (41%) replied to the Pulse Check electronic questionnaire through SurveyXact, representing 10 of 17 (59%) FEMaLe Beneficiaries, upon which we can draw the following conclusion:

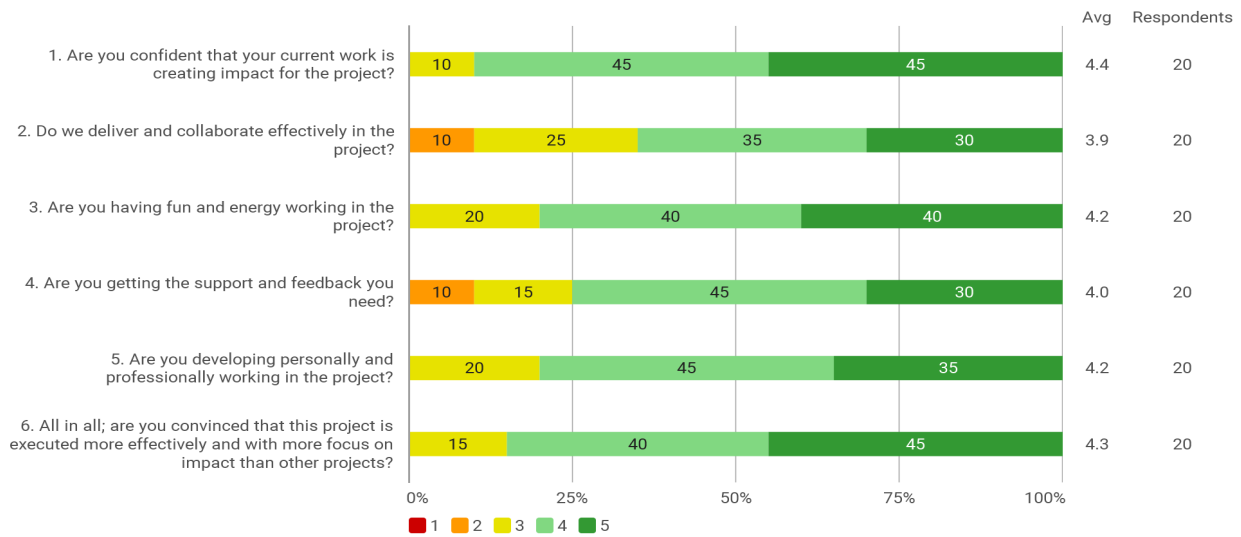81% are confident that their current work create impact for FEMaLe; average score 4,4 of 5 (**+0,4**).

56% believe that they deliver and collaborate effectively in FEMaLe; average score 3,9 of 5 (-).

75% are having fun and get energy out of working in FEMaLe; average score 4,2 of 5 (-0,1).

75% are getting the support and feedback they need working in FEMaLe; average score 4,0 of 5 *(new)*.

75% are developing personally and professionally working in FEMaLe; average score 4,3 of 5 (**+0,5**).

69% are convinced that FEMaLe focuses on early impact creation; average score 4,1 of 5 (**+0,3**).
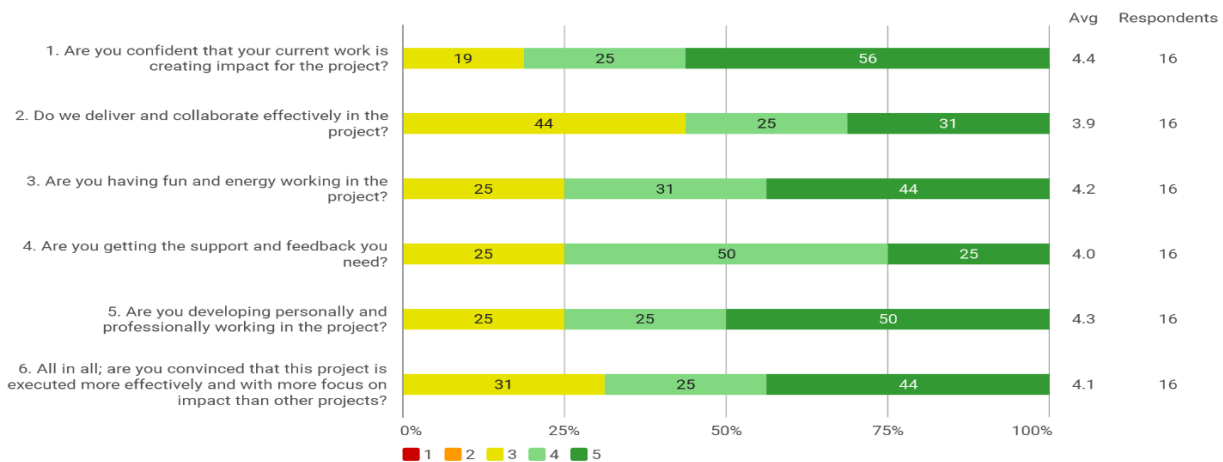
Score compared to baseline level indicated in brackets above.

FEMaLe Pulse Check Results: March 2023

18 out of 39 FEMaLers (46%) replied to the Pulse Check electronic questionnaire through SurveyXact, representing 12 of 17 (71%) FEMaLe Beneficiaries, upon which we can draw the following conclusion:

83% are confident that their current work create impact for FEMaLe; average score 4,3 of 5 (**+0,3**).

72% believe that they deliver and collaborate effectively in FEMaLe; average score 4,0 of 5 (**+0,1**).

78% are having fun and get energy out of working in FEMaLe; average score 4,2 of 5 (-0,1).

78% are getting the support and feedback they need working in FEMaLe; average score 4,0 of 5 (-).

77% are developing personally and professionally working in FEMaLe; average score 4,2 of 5 (**+0,4**).

72% are convinced that FEMaLe focuses on early impact creation; average score 4,1 of 5 (**+0,3**).
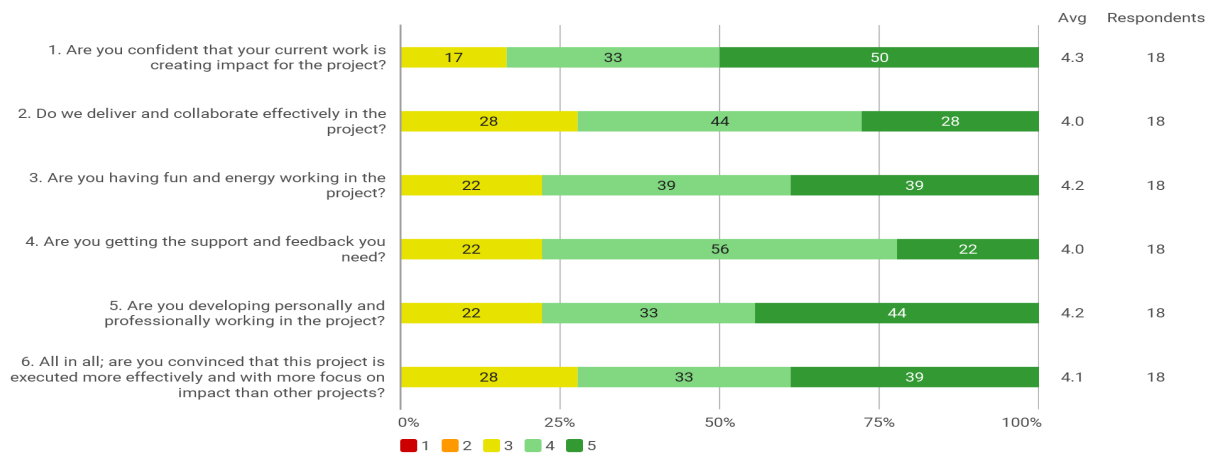
Score compared to baseline level indicated in brackets above.

FEMaLe Pulse Check Results: May 2023

20 out of 40 FEMaLers (46%) replied to the Pulse Check electronic questionnaire through SurveyXact, representing 13 of 17 (76%) FEMaLe Beneficiaries, upon which we can draw the following conclusion:

90% are confident that their current work create impact for FEMaLe; average score 4,4 of 5 (**+0,4**).

65% believe that they deliver and collaborate effectively in FEMaLe; average score 3,9 of 5 (-).

80% are having fun and get energy out of working in FEMaLe; average score 4,2 of 5 (-0,1).

75% are getting the support and feedback they need working in FEMaLe; average score 4,0 of 5 (-).

80% are developing personally and professionally working in FEMaLe; average score 4,2 of 5 (**+0,4**).

85% are convinced that FEMaLe focuses on early impact creation; average score 4,3 of 5 (**+0,5**).

	Avg	Respondents
1. Are you confident that your current work is creating impact for the project?	4.4	20
2. Do we deliver and collaborate effectively in the project?	3.9	20
3. Are you having fun and energy working in the project?	4.2	20
4. Are you getting the support and feedback you need?	4.0	20
5. Are you developing personally and professionally working in the project?	4.2	20
6. All in all; are you convinced that this project is executed more effectively and with more focus on impact than other projects?	4.3	20

Score compared to baseline level indicated in brackets above.

Impact Monitoring and Assessment Summary, Q2 + Q3 2022

Average score	07 2022 (n=18)	08 2022 (n=22)	09 2022 (n=15)	10 2022 (n=14)	11 2022 (n=18)	12 2022 (n=20)
Question 1	4.4 (+0.4)	4.4 (+0.4)	4.6 (+0.6)	4.5 (+0.5)	4.4 (+0.4)	4.4 (+0.4)
Question 2	4.3 (+0.4)	4.2 (+0.3)	4.4 (+0.5)	4.1 (+0.2)	4.2 (+0.3)	4.2 (+0.3)
Question 3	4.3 (-)	4.5 (+0,2)	4.3 (-)	4.4 (+0.1)	4.4 (+0.1)	4.4 (+0.1)
Question 4	4.2 (+0.4)	4.1 (+0.3)	4.1 (+0.3)	4.4 (+0.6)	4.4 (+0.6)	4.3 (+0.5)
Question 5	4.2 (+0.4)	4.1 (+0.3)	4.1 (+0.3)	4.1 (+0.3)	4.0 (+0.2)	4.1 (+0.3)
Average mean	4.28	4.26	4.30	4.30	4.28	4.28

Positive score	07 2022	08 2022	09 2022	10 2022	11 2022	12 2022
Question 1	89%	87%	94%	93%	89%	90%
Question 2	78%	82%	80%	79%	83%	85%
Question 3	89%	95%	87%	86%	89%	90%
Question 4	78%	73%	73%	86%	83%	75%
Question 5	78%	77%	67%	79%	72%	75%
Average mean	82.4%	82.8%	80.2%	84.6%	83.2%	83.0%

The Questionnaire

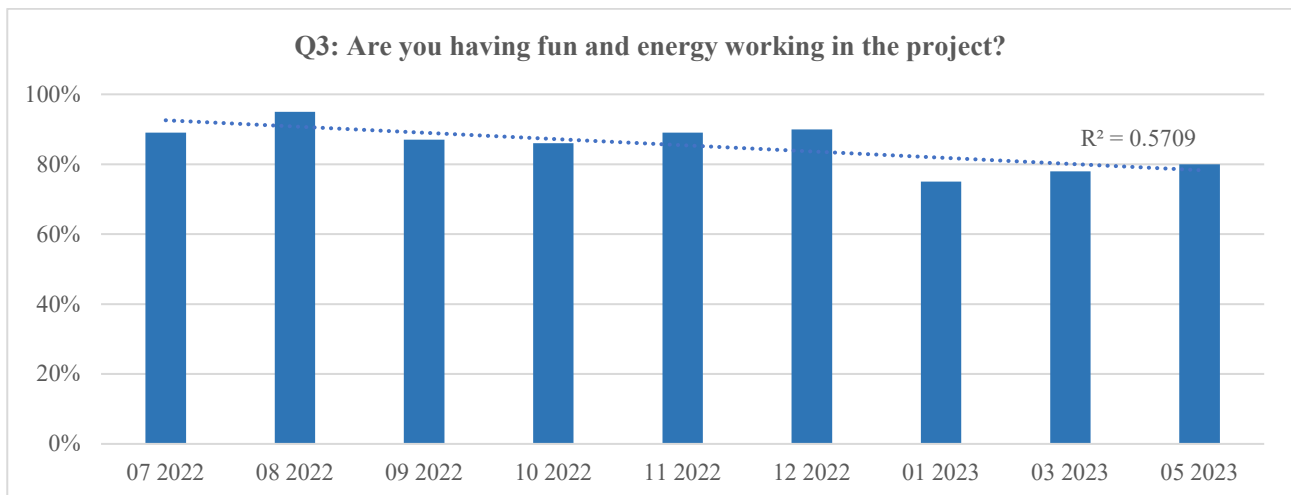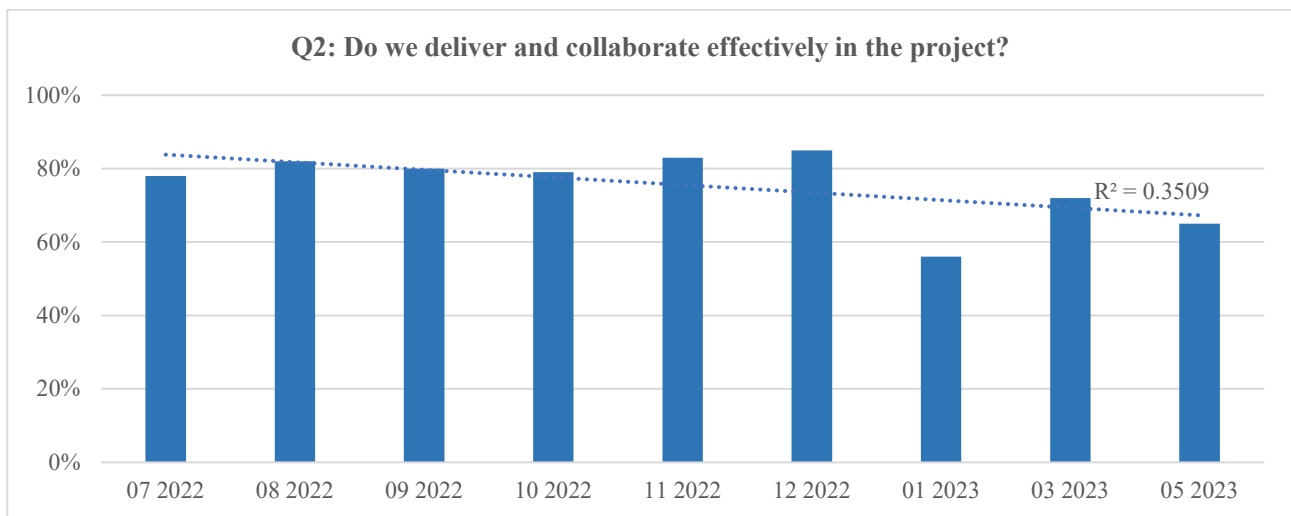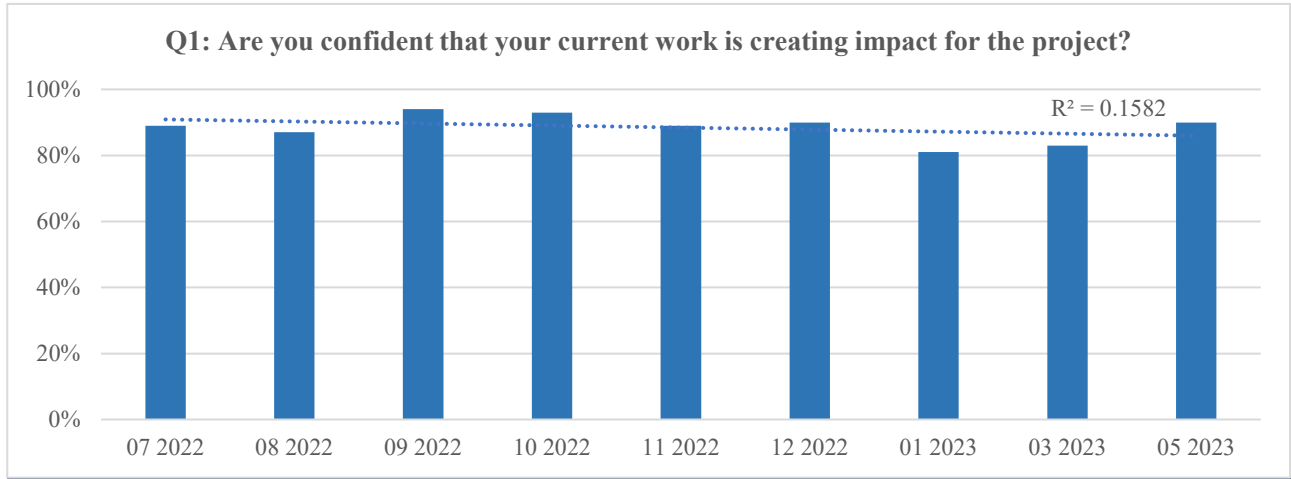Question 1. Are you confident that your current work is creating impact for the project?

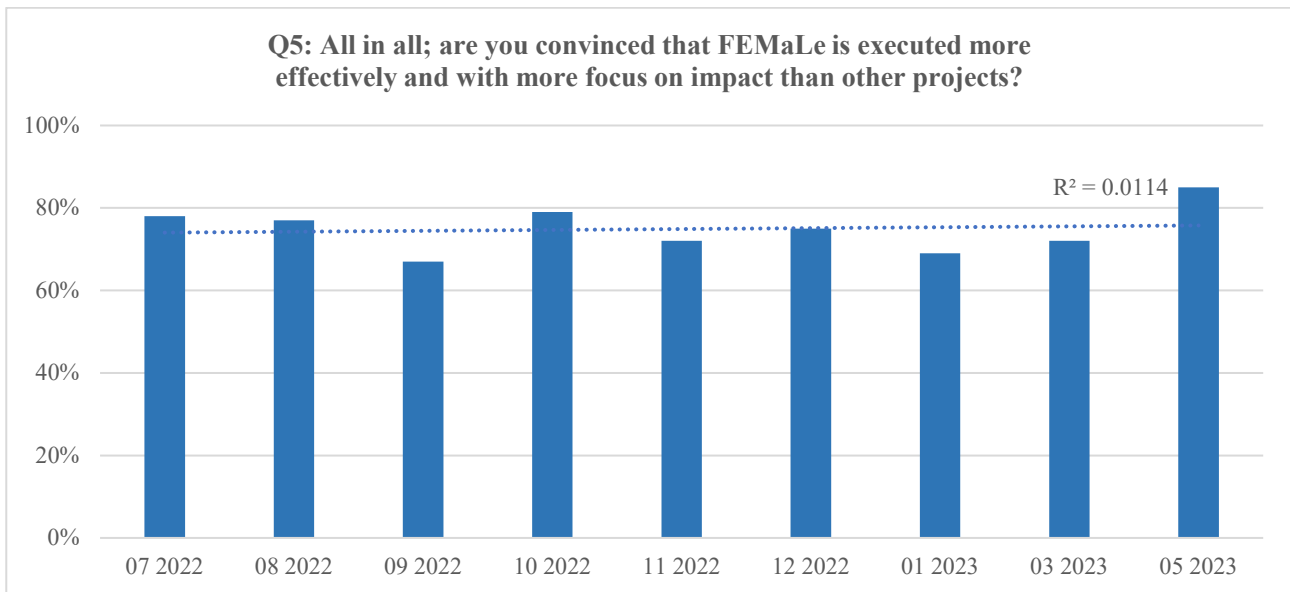Question 2. Do we deliver and collaborate effectively in the project?

Question 3. Are you having fun and energy working in the project?

Question 4. Are you developing personally and professionally working in the project?

Question 5. All in all; are you convinced that this project is executed more effectively and with more focus on impact than other projects?

Impact Monitoring and Assessment Summary, Q1 + Q2 2023

Average score	01 2023 (n=16)	03 2023 (n=18)	05 2023 (n=20)
Question 1	4.4 (+0.4)	4.3 (+0.3)	4.4 (+0.4)
Question 2	3.9 (-)	4.0 (+0.1)	3.9 (-)
Question 3	4.2 (-0.1)	4.2 (-0.1)	4.2 (-0.1)
Question 4	4.0 (new)	4.0 (-)	4.0 (-)
Question 5	4.3 (+0.5)	4.2 (+0.4)	4.2 (+0.4)
Question 6	4.1 (+0.3)	4.1 (+0.3)	4.3 (+0.5)
Average mean	4.15	4.13	4.17

Positive score	01 2023	03 2023	05 2023
Question 1	81%	83%	90%
Question 2	56%	72%	65%
Question 3	75%	78%	80%
Question 4	75%	78%	75%
Question 5	75%	77%	80%
Question 6	69%	72%	85%
Average mean	71.8%	76.7%	79.2%

The Questionnaire

Question 1. Are you confident that your current work is creating impact for the project?

Question 2. Do we deliver and collaborate effectively in the project?
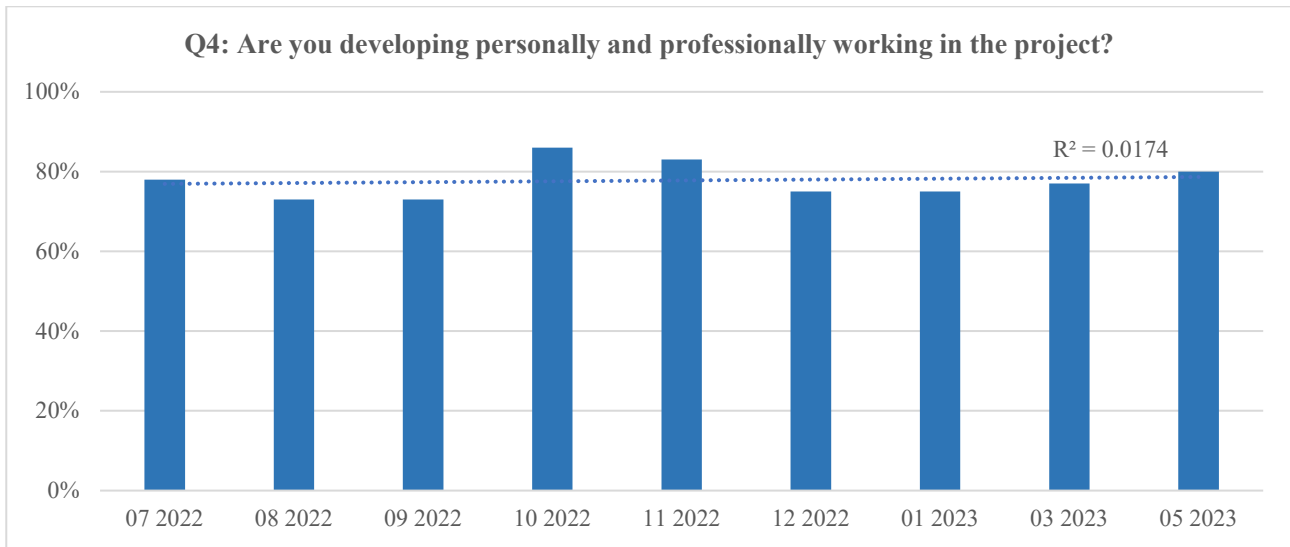
Question 3. Are you having fun and energy working in the project?

Question 4. Are you developing personally and professionally working in the project?

Question 5. All in all; are you convinced that this project is executed more effectively and with more focus on impact than other projects?

Impact Monitoring and Assessment Positive Scores, 07 2022 to 05 2023

Q1: Are you confident that your current work is creating impact for the project?

R² = 0.1582

Q2: Do we deliver and collaborate effectively in the project?

R² = 0.3509

Q3: Are you having fun and energy working in the project?

R² = 0.5709

Q4: Are you developing personally and professionally working in the project?

R² = 0.0174

Q5: All in all; are you convinced that FEMaLe is executed more effectively and with more focus on impact than other projects?

R² = 0.0114

It appears that the 40 FEMaLers employed in the project – on behalf of the 17 FEMaLe Beneficiaries – believes that their current work is creating impact for the project, that they are developing both personally and professionally working on the project, and that the FEMaLe Project is executed more effectively and with more focus on impact than other projects.

However, we see a trend from 2022 to 2023 towards that FEMaLers are having less fun and energy working in the project and that we deliver and collaborate less effectively. Overall, FEMaLe is still performing well above the average mean target of 4.0 out of 5. For this reason, we will identify any root causes explaining for this development in the next impact monitoring and assessment period to optimise engagement and commitment in the FEMaLe project, which is necessary and a prerequisite to securing high performance in the final project period.

3. Impact Case Workshop report

The Impact Case workshop results report contains all WP Impact Cases with accompanying key performance indicators (KPIs).

The purpose is to provide an overview to the FEMaLe partners, monitor their progress, and help the partners to realize impact faster.

The workshops took place in autumn/winter 2022 and were regularly revisited to discuss and debrief the status.

The impact cases are represented using the blue colour to indicate completed tasks, while the yellow colour signifies tasks that are in progress, ongoing or not yet completed.

WP1

Impact Case: WP1
Q3+Q4 2022 and Q1+Q1 2023

Task	KPI	Status	Comment
To create 9 Impact Case workshops to monitor the impact creation of all FEMaLe work packages	Impact Case workshop created.	Completed	Created in October 2022
To create 9 Impact Cases Q3+Q4 2022 and Q1+2 2023.	9 Impact Case created	Completed	
Create a new action plan for Impact solution design in FEMaLe in Q3 2022	Impact solution design presented and implemented for the FEMaLe consortium	Completed	
To create 9 HD evaluations in Q2 2023	9 Half Double evaluations created in SurveyXact	Completed	Evaluations held in March and april 2023

WP2

Missing data.

WP3

Impact Case: WP3
Q3+Q4 2022 and Q1+Q1 2023

Task	KPI	Status	Comment
AU and Aberdeen will submit an article/abstract for the Edinburgh congress and participate in the World Congress on Endometriosis 2023 in May 2023	Article/Abstract submitted Networking and new ideas for research at congress	Completed	
AU will hire a new post doc in Q4 2022	Post doc hired	Completed	
AU will create invitations and distribute them to the citizens E-boks in Q4 2022	Distribution completed	Completed	Sent out in Q1 2023
AU will pilot test, translate and submit the questionnaire in Q4 2022	Pilot test, translation completed and questionnaire submitted	Completed	
AU will complete the project description on AU website in Q4 2022	Project description completed	Completed	
AU will submit a manuscript for the consensus study in Q4 2022	Manuscript submitted	Not completed	In progress
AU will send out the questionnaire in Q1 in 2023	Questionnaire sent	Completed	
Anna (AU) will submit the manuscript for the article Consequences related to diagnosis of endometriosis in Q1 2023	Article submitted	Completed	Article ready for resubmission
AU will establish an internship to help with questionnaire related tasks and article publication	Internship established	Not completed	Cancelled due to illness
Collaboration with WP4 regarding characterization of endometriosis subgroups identified from Danish registries	Meeting established between WP3 and 4	Not completed	Not started yet

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WP4

Impact Case: WP4
Q3+Q4 2022 and Q1+Q1 2023

Task	KPI	Status	Comment
To submit an abstract and present results at world endometriosis congress 2023	Participated in congress	Completed	
To complete a joint webinar with the TRENDO project early 2023	Joint webinar completed in early 2023	Not completed	In progress
Complete task 4.2.1 in the FEMaLe proposal	Replication and network analysis of high-risk genotype combinations completed	Completed	
Complete task 4.2.2 in the FEMaLe proposal	Decision on how to define genetic subgroups of endometriosis patients reached	Completed	
Complete task 4.2.3 in the FEMaLe proposal	Genetic subgrouping of endometriosis patients completed	Completed	37 genotypic clusters of patients identified
Complete task 4.2.4 in the FEMaLe proposal	MesoScale protein data in DBDS endometriosis cohort analyzed and potential biomarkers identified	Completed	No significant biomarkers identified
Complete task 4.2.5 in the FEMaLe proposal	Decision reached on platform (MesoScale or something else) for biomarker analysis in the third cohort	Completed	Decision has been made to move to OLINK 3072 Explore panel
Complete task 4.2.6 in the FEMaLe proposal	Deliverable 4.2 – Biological markers submitted in December 2022	Completed	No biological markers were found
Complete task 4.3.1 in the FEMaLe proposal	Samples for independent cohort selected	In progress	Samples will be sent for OLINK analysis in Juli 2023
Complete task 4.3.2 in the FEMaLe proposal	Relevant data processing agreements in place	In progress	
Complete task 4.3.3 in the FEMaLe proposal	Genotyping and biomarker profiling of samples from independent cohort completed and data received	In progress	To be conducted in coming months
Complete task 4.3.4 in the FEMaLe proposal	Relevant information for characterization of endometriosis subgroups identified from Danish registries in collaboration with WP3	Completed	
Complete deliverable 4.3 - Subtype characteristics in Q4 2023	Deliverable 4.3 completed	Not completed	Will be delivered in Q4 2023

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WP5

Impact Case: WP5
Q3+Q4 2022 and Q1+Q1 2023

Task	KPI	Status	Comment
Preparing the Lifestyle and dietary module in the Lucy app	Complete module	Completed	Completed before the deliverable deadline
Deliver D5.3 Lucy app lifestyle module	Complete the lifestyle module	Completed	Data collection is currently ongoing
Deliver D5.4 Lucy app dietary module	Complete the dietary module	Completed	Data collection is currently ongoing
Marketing strategy from external partner	External partners reached and marketing strategy finalized	Completed	marketing through Lucy app flyers sent to GPs
Finish the questionnaire translation (German, Swedish, Danish, Hungarian)	Complete the translations	Completed	Further translated to French and Italian, and will be translated in Polish
Monitor the rate of data gathering and continue to gather data from users on Lucy	To reach as many as possible in a 3 month period and improve the current reach	Completed	9200 monthly users 1300 daily users
Gather samples from healthy women on Lucy	To reach as many as possible	In progress	Data collection is currently ongoing
Share the methodology of the lucy data gathering at the World Congress on Endometriosis in Q2 2023	Networking and sharing of knowledge and ideas	Completed	Two invited lectures and an oral presentation were held at WCE 2023

Impact Case: WP6
Q3+Q4 2022 and Q1+Q1 2023

Task	KPI	Status	Comment
Annotation task M18 in WP6, M20 WP7	50,000 (WP6),100,000 (WP7) images - 9 specific classes [67 000 up to now and growing]	Completed	Annotated images: 19,700 Annotated lesions: 61,900 N. of classes: 9
Continue D6.3, which will be finished in Q1 2023	Complete the deliverable in month 26	Completed	
Continue working on the segmentation model. To verify how the model will work in the future and implement it into their existing work. Additionally, improve the quality	Deliver due to the deadline in Q1 2023	Completed	Task completed, but the WP is still improving the model
To clarify how to make the final results of WP6+7 - discussion with some representative	Final results action plan established	Completed	Ongoing testing with real surgeons
To produce scientific papers	Submit 1-2 articles (1 clinical/medical article and 1 IT article about the model). [1 in progress, 1 planned to Q1/2024]	Completed	Published: 1 journal article and 1 abstract To be submitted: 1 journal article

Impact Case: WP7
Q3+Q4 2022 and Q1+Q1 2023

Task	KPI	Status	Comment
Continue collecting videos and add it to the database	Enough data at the moment, they are being annotated, but they want more	Completed	390 collected surgeries 1096 annotated images 6649 annotated lesions
Complete the D7.2 Post-operative dataset	D7.2 in M25 is delivered	Completed	
Complete the D7.4 Computer vision-based tools	Complete the D7.4 in M40	In progress	An initial dataset is ready, first processes are done
Collaboration with other hospitals	Collaboration established in 5 hospitals	Completed	
Engage the annotators -a process to increase the loyalty level of the annotators	4 annotators engaged	Completed	2 junior surgeons 2 expert surgeons
To produce scientific papers	Submit 3-4 articles (1 medical article is achievable before Q2 23)	Completed	1 accepted
Definition of the pipeline of the clinical evaluation	The pipeline and clinical evaluation defined	Ongoing	Discussions and definitions of the metrics

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Impact Case: WP8
Q3+Q4 2022 and Q1+Q1 2023

Task	KPI	Status	Comment
Submission of protocol to the Research Ethics Committee, who has to grant permission to conduct the RCT	Application submitted in Q3 2022	Completed	Protocol submitted and approved
AU data management department will build a digital platform placed at an AU server	Deliver due to the new year 2022/2023	Not completed	Delay in building the platform at AU server
Karina (AU) will present the mindfulness project to the research council (Aarhus University Hospital) in Q4 2022	Submit the protocol and present the project to the research council at Aarhus University Hospital	Completed	
Anne Mai (AU) will start as postdoc in Q4 2022 with a workload of 15 hour/week	Successful startup of Anne Mai the postdoc	Completed	
Build the electronic questionnaire in Redcap/Surveyxact	Complete the electronic questionnaire on the new year 22/23	In progress	Needs to be pilot tested and adjusted
Pilot test the new build program at Aarhus University in Q1 2023	Testing completed	Not completed	Delayed due to delay in building platform
AU will translate (using DeepL pro) the program to English in Q2 2023	The English translation should be completed before April 2023	Completed	
YLK will translate (using DeepL pro) the program to Hungarian in Q2	The Hungarian translation should be completed before April 2023	Not completed	Not stared yet
Start-up on the RCT in Q2 2023	Start the recruitment in Q2 2023	Not completed	Due to delay of platform
Submit the manuscript for MY-ENDO Feasibility pilot study in Q4	Article submitted in Q4 2022	Completed	Under review
Participate and present abstract at the World Congress on Endometriosis at Q2 2023	Networking and knowledge sharing	Completed	

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Impact Case: WP9
Q3+Q4 2022 and Q1+Q1 2023

Task	KPI	Status	Comment
EQuiP will complete Endometriosis ABC glossary	Launching on social media either Q1 or Q3 2023 and then 6 month ahead	Ongoing	Launching on social media as planned
EQuiP will utilize Google trends to monitor endometriosis trends	To increase the trend of endometriosis on Google trends	Ongoing	
Webinar with Science for Change on 13/10 2022	Complete the webinar, reach 50 people	Completed	Available on Youtube
WP9 will agree on how to brand the employees in FEMaLe	Establish a meeting with project coordinator and WP9 after to complete the action plan	Not completed	No progress has been made so far
Employee branding - to share what the partners are working with/ to introduce new employees	Action plan of employee branding established	Not completed	No progress has been made so far
WBS will complete the final steps at the FEMaLe website (newsletter, deliverables ect.)	The final steps completed, Design and contents completed	Completed	Regular content publishing
WBS will ask support from intellectual property management for advice and alignment of the website	Support reached	Completed	
WBS will establish a rhythm for the FEMaLe newsletter	Newsletter rhythm established	Completed	First two newsletter issues are published
WBS will establish a rhythm of meetings for the WP9 group	Rhythm of meetings established	Completed	Rhythm meeting established
Make a strategy on how to involve/repost/engage TIEF in the FEMaLe SoMe strategy	Strategy established	Not completed	
TIEF will conduct a survey	10000 people will complete the survey. Additionally, this will be used in a scientific article	Not completed	
To engage users on SoMe for FEMaLe and endometriosis	40000 reach on SoMe	Completed	Currently 800k impressions
Make a strategy to engage policy makers	Strategy established	Ongoing	

WP10

Impact Case: WP10
Q3+Q4 2022 and Q1+Q1 2023

Task	KPI	Status	Comment
Complete D10.7 progress and quality monitoring in Q4	Task completed	Completed	Submitted 26 jan 2023
Complete D11.2 HCT in Q4	Task completed	Completed	Submitted 15 dec 2022
Complete D10.27 knowledge management in Q1 2023	Task completed	Completed	
Complete D10.31 Data management plan 2 in Q2 2023	Task completed	Completed	Submitted June 2023
Complete D1.7 in Q2 2023	Task completed	Completed	
Complete D9.5 IIP management in Q1 2023	Task completed	Completed	Submitted 28 Mar 2023
Complete D9.8 Exploitation in Q1 2023	Task completed	Completed	Submitted 20 May 2023
Impact case Q3 2022	Task completed	Completed	
Assess the risk in the FEMaLe project in Q4 2023	Risk assessed in the FEMaLe consortium	Completed	Risk assessment done using Miro 25 oct 2022
Reflect upon the risk factors in every WPs	To discuss risk factors at the WPL meeting	Completed	Discussed risks first time in Dec 2022
Create the FEMaLe motherboard in Miro before Q1 2023	Complete the FEMaLe motherboard	Completed	Miro motherboard v1 created
Evaluation of HDM during EB meeting at 15/11 2022	Flow element evaluated during EB meeting	Completed	HDM in FEMaLe evaluated
Lancing the the FEMaLe motherboard V1 (minimum viable product) at 13/12 WPL	Present the FEMaLe motherboard V1 at 13/12 WPL	Completed	Miro motherboard v1 launched
Upgrade the FEMaLe motherboard V1 to V2 in Q1 2023	Complete the V2 of the FEMaLe motherboard	Completed	
Upgrade the FEMaLe motherboard V2 to V3 in Q2 2023	Complete the V3 of the FEMaLe motherboard	Completed	

Summmery

The Impact Cases reveal that out of a total of 86 defined sub-tasks, 64 have been completed so far. WP2 is not included in the report due to missing data.

The result is expected, and most of the remaining tasks are categorised as 'ongoing' or 'in progress' due to activities that extend into Q3, 2023.

Especially, WP9 has several ongoing social media activities, where project partners, advisors and the Endometriosis Glossary campaign continues into the next project period. Other ongoing tasks are due to a decision to continue and extend the data collection, resulting in more data being gathered than initially anticipated, which is an extremely positive outcome for the project.

However, WP8 has faced major challenges during this particular period, as the development of a GDPR compliant research digital platform on Aarhus University's own servers has been delayed, which has affected the execution of the remaining tasks.

Further deviations from the Impact Cases and KPIs co-created by each of the ten FEMaLe work packages as well as relevant mitigating actions will be unfolded in the deliverable D10.9 Progress monitoring, quality control and brief M32, which is due 31 August 2023.

4. Half Double Evaluation

The following section presents the results of the constructive evaluation conducted on the individual WP level within the FEMaLe project. This evaluation is the third evaluation in a series of four evaluations that takes place throughout the project.

The aim is to gain insights into how each WP applies HDM, with the obejctive to improve and validate project activities, while tracking the usage of the tools over time.

The evaluation was conducted through an online questionnaire using SurveyXact, an encrypted survey software.

Each WP leader was asked 17 questions related to the three core elements of the project methodology: *Impact*, *Flow*, and *Leadership*. These questions referred to the nine Half Double practices.

Participants were required to assign a score ranging from 0 to 4, where 1 representing low application and 4 indicating high application of the practice (0 indicate that the practice is not applicable). An average score was used as a threshold to determine whether the WP is considered to have implemented the HDM (>2.5: utilising the HDM, <2.5: not utilising the HDM).

Table 1 shows the results and progress in the application of the method.
A visual illustratin of the results can be found in Appendix 1.

After answering the questionnaire, WP leaders were invited to participate in an online follow-up interview. These interviews provided an opportunity to further elaborate answers, discuss reflections and share the lessons they had learned from working with HDM.

In the following sections, the results of the constructive evaluations will be presented, followed by a summary of the discussions from the interviews.

Finally, the lessons learned from this project period will be presented.

Table 1: Progress in the use of Half Double practices, from the 1ˢᵗ evaluation (baseline) to 3ʳᵈ evaluation

	Impact			Flow			Leadership			Average score	Comments
	Impact case	Impact solution design	Pulse check	Co-location	Visual planning	Rhythm in key events	Active ownership approach	Collaborative leadership approach	Reflective and adaptive mindset		
WP1 1ˢᵗ evaluation	4	2	4	1	4	3	1	4	3	2,89	*Co- location:* It has been possible to assure better co-location in this project period.
2ⁿᵈ evaluation	4	4	4	1	4	4	1	4	4	3,33	*Visual planning:* We have found and used what suits the project best and for IC this was not through visualisations. However, we still use Miro for organising workshops.
3ʳᵈ evaluation	4	4	4	2 (+1)	3 (-1)	4	0 (-1)	4	4	3,22 (-0,11)	*Active ownership approach:* Project owner is not involved in decision-making processes in WP1.
WP2	Missing data.										
WP3 1ˢᵗ evaluation	1	2	2	1	2	3	4	3	2	2,22	*Impact case + Impact solution design:* Will be a focus area for the next evaluation.
2ⁿᵈ evaluation	3	2	2	1	2	2	4	3	2	2,33	*Co-location:* Increased due to having a larger team at AU. *Active ownership approach:* Project owner is not engaged in this WP.
3ʳᵈ evaluation	0 (-3)	0 (-2)	2	2 (+1)	2	3 (+1)	1 (-3)	1 (-2)	2	1,44 (-0,89)	*Collaborative leadership approach:* Lack of collaboration across partners.

											Notes
WP4 1st evaluation	3	3	2	1	2	4	3	4	3	2.78	*Impact:* Score 0 In all impact tools. Difficult to see impact immediately in their field, difficult to accelerate impact. However, it is explained that they break down tasks and make milestone plans, which may illustrate that the low score is caused by a misunderstanding of the questions.
2nd evaluation	2	3	2	2	3	4	3	4	3	2.89	
3rd evaluation	0 (-2)	0 (-3)	0 (-2)	2	0 (-3)	2 (-2)	2 (-1)	0 (-4)	4 (+1)	1,11 (-1,78)	*Flow:* Drop in rhythm because of a break in the monthly meetings, which was difficult to restart. *Leadership:* There is a need for a project manager internally in the WP. The project coordinator is perceived to have contributed to the WP as expected.
WP5 1st evaluation	2	2	1	4	4	4	4	4	2	3.00	*Impact*: Very positive results. Increased impact by collecting more data than described in proposal and reaching deliverables earlier, allowing the Lucy app to be launched faster and value to be realised earlier.
2nd evaluation	3	4	2	4	3	4	4	4	2	3.33	
3rd evaluation	4 (+1)	4	4 (+2)	4	2 (-1)	4	4	4	4 (+2)	3,78 (+0.45)	*Visual planning*: Do not use visual planning in this project period, because there are not that many tasks now. *Leadership:* Change in leadership positions, which was expected.
WP6+7 1st evaluation	2	3	3	2	2	2	3	3	3	2.67	*Impact*: The WP has a strong focus on Impact. In fact, their biggest focus since they work closely with surgeons and patients.
2nd evaluation	2	4	3	2	2	3	3	3	3	2.67	*Rhythm in key events*: Established regular meetings and set up a plan with the organisation.
3rd evaluation	2	4	4 (+1)	2	3 (+1)	4 (+1)	2 (-1)	2 (-1)	2 (-1)	2,78 (+0.11)	*Visual planning*: For every meeting they visualise everything to give annotators feedback or information.

	1	2	3	4	5	6	7	8	9	Avg	Comments
WP8 1st evaluation	3	4	1	1	3	2	4	-	4	2.44	*Pulse check*: Established at monthly meetings.
2nd evaluation	3	4	3	3	2	2	4	3	4	3.11	*Co- location:* It has not been possible to assure better co-location in this project period.
3nd evaluation	4 (+1)	4	4 (+1)	0 (-3)	2	4 (+2)	4	4 (+1)	4	3,33 (+0.22)	*Rhythm in key events:* Established a stable rhythm in the WP.
WP9 1st evaluation	2	3	1	1	4	2	2	4	3	2,44	*Pulse check:* Planned to contact external stakeholders and contact them to check stakeholder satisfaction and find out if and how they can contribute to the project.
2nd evaluation	2	4	1	1	4	4	2	4	3	2,78	*Co- location:* The WP has improved the collaboration with other partners in the project. *Active ownership approach:* Project Coordinator set an example for the project.
3rd evaluation	2	4	2 (+1)	2 (+1)	4	4	4 (+2)	4	4 (+1)	3,33 (+0.55)	*Reflective and adaptive mindset:* The WP have had a reflective and adaptive mindset in terms of focusing more on the impact, and then have held a lot more meetings, published more content at the website – this has increased the website traffic with 50%.
WP10 1st evaluation	4	3	4	1	4	4	4	4	4	3,56	*Impact case:* Can be used more extensively. *Impact solution design:* The new rhythm and flow of meetings and fewer reporting has contributed to a higher impact in the project.
2nd evaluation	4	4	3	2	4	4	3	4	4	3,56	*Pulse check:* We use it, but it hasn't had much effect on the WP in the recent period.
3rd evaluation	2 (-2)	4	2 (-1)	3 (+1)	4	4	4 (+1)	4	4	3,44 (-0,12)	*Co- location:* It has become visible that we're all in it together at AU. Rhythm with meetings every 2 weeks. *Active ownership approach:* A people first approach is used.

Summery

Table 1 shows the progression in the use of the Half Double practices from the first baseline score to the third evaluation of the WPs in the project. WP6 and WP7 are merged in the evaluations, as they work closely together and as several of their tasks are comparable. WP2 is not included in the evaluation due to missing data.

The results from the third evaluation show that 6 out of 8 WPs have an average score of >2.5, indicating that they have implemented HDM. The results also show a large decrease in the use of HDM in WP3 (-0.89) and WP4 (-1.78) since the previous evaluations. Both WPs explain the decrease in the follow-up interview, explaining that the fall is due to a lack of insight into how to implement some of the methods in their context. Likewise, they also describe that it was difficult to fill out the questionnaire, as several of the questions were difficult to understand.

The results show that tools from the core element *Leadership* have the highest scores across the WPs, with an average score of 3,0. The average score for the use of elements from the core element *Flow* is 2.74 and for *Impact* 2.68.

The most used tools in this period are the tool *Rhythm in key events*, with a score of 3.625 and *Reflective and adaptive mindset*, with a score of 3.5 across all WPs. The least used tool is *Co-location*, with a score of 2.125. The low score may be explained due to the geographic distribution of the project members and the fact that most project members are working on multiple projects at the same time.

The results show no systematic difference in the use of HDM across the different types of WPs.

Lessons learned

The FEMaLe project has gained valuable experience over 2.5 years of implementing HDM. During this time, the WPs has utilized the various tools provided by the methodology.

In particular, the *Impact Solution Design* tool has been successfully applied in individual WPs. This tool provides a visual timeline that captures the different project phases and is easy to adapt to the project's needs. Moreover, the *Leadership* tools have proven to be important, as they contribute to increased utilization of the other tools. Another aspect highlighted in the implementation process, is that the online surveys were easy to fulfil, as they fit easily into the work routine, because you were able to complete it when you had time.

Additionally, the follow-up interviews were experienced to be very beneficial, as they offered an opportunity to elaborate on the survey responses and gather more in-depth insights. The interviews also provided a psychological safe work environment in the project, allowing project members to share and raise concerns about specific aspects of the project, such as progress and collaboration.

However, there is still a need for more *Local Translation* to ensure the tools can be further adapted within the WPs. Local translation would allow for more detailed adaptation of the tools to match the specific requirements of each WP.

Furthermore, some FEMaLers experienced challenges in completing the questionnaire because some questions were quite difficult to understand in their working context. Addressing this issue by customising the questionnaire to better suit different contexts may improve the usability and effectiveness of the tools in all WPs.

5. References

Half Double Institute. (2022). *Half Double Methodology Foundation Guide & Handbook Set* (1st ed.). https://www.vanharen.store/half-double-methodology-foundation-guide-handbook-set#

6. Appendix

Results from the Half Double evaluations: Spiderweb charts

The results are illustrated in spiderweb charts (see below), divided into the nine HDM tools; the centre of the diagram corresponds to a score of 0, and the outer ring of the diagram corresponds to a score of 4:

HD evaluation - WP4

HD evaluation - WP5

HD evaluation - WP6+7

HD evaluation - WP8

HD evaluation - WP9

HD evaluation - WP10