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CONFIWORKERS

Best practices handbook of Amfors and AMIPI

2023

Presentation of the partners

Amfors is the sheltered work provider for over 900 disabled workers in the Amersfoort area in The Netherlands. Activities include cleaning, green maintenance, metal working, assembly, packaging, individual and group secondments. The mission of Amfors is to further develop its employees in order to let them participate on the labor market. Coordinator of Inclusive Field Lab in the Netherlands, Amfors is a frontrunner in the use of innovative learning methods and assistive technologies for its workers, having already organised innovative projects for their workers. Amfors is recently recognized by the Dutch Ministry of Economic Affairs within their Industrial Innovation programme as a Smart Industry Field Lab; the only one working with disabled people.

The AMIPI Foundation, which has been recognised as a public utility since 2005, manages six learning and working factories in the Pays de Loire and Centre Val de Loire regions of France. It currently employs more than 700 disabled workers who produce electrical harnesses for the automotive industry (Stellantis, Renault, Plastic Omnium, …). The Foundation's mission is to give people with cognitive disabilities the opportunity to progress through a manual work, organised scientifically in a succession of learning processes, and to support them in finding their place in regular companies.

Overview of the partners:

AMIPI	AMFORS
900 employees (135 supervisors/support functions)	900 employees (75 supervisors/support functions)
40 M€ of budget (10 M€ subsidy)	40 M€ of budget (20 M€ of subsidy)
6 plants	2 plants
Mono-activity : Cable harnesses	Several activities : green maintenance, assembly, packaging, metal shaping, cleaning, production
4 main clients	60 clients, including 30 main ones
Gross salary for a worker: 1800 €	Gross salary for a worker : 2000€
Rejuvenation of the population pyramid	Ageing population pyramid
Relationship with the regions and the State (sub-prefect on the Board of Directors)	Strong link with municipalities and region (presence in the Supervisory Board)

Overview of the partners processes:

Amfors and AMIPI aim to promote the inclusion of people with disabilities in the world of work and are organisations where people with disabilities can learn various competences through work, such as basic, social and professional skills. In that way, our factories can be considered as places of work and learning.

Despite similar objectives, our approaches differ quite a bit due to different histories and cultures. However, both methods successfully address the needs that exist in our workplaces (and in many others). Thus, by cooperating and sharing our experiences and knowledge, we can strengthen our methods and approaches.

	AMIPI	AMFORS
Recruitment	Recruitment days are organised according to the needs of the plants. Applications are mainly unsolicited or proposed by Cap Emploi (a network of organisations that help disabled people find work). The candidate must be officially recognised as a worker with a disability, but the Foundation does not have access to medical records	Since Participation Law (2015): no regular intake for Sheltered Work at Amfors anymore. Temporary (3 months e.g.) apprenticeships at Amfors locations proposed by Municipalities. Company recruitments: short term skill development (Field Lab Innovations) for company workers at Amfors location

Selection process	Tests are carried out on recruitment days to assess the candidates' abilities (spatial organisation, visual memory, complex coordination, and dexterity). These tests make it possible to identify any difficulties the operators may have and to define a specific learning path through different workstations.	The operators (workers) proposed by municipality or company are profiled and skill tested at Amfors location. These practical tests (e.g. metal-shaping) reveal the current deployability and learning opportunities.
Management/Coaching	- Mimetic psychology, - Neuroscientific approach - Lean management	- Participatory-ethnographic approach - Coaching on the workplace - skill-development by innovative technology
Inclusion	The worker develops a personal integration project with the HR manager 3-step individualised integration programme: Internship, Secondment, Permanent Contract. Legal obligation of 6% of disabled workers in regular companies.	Legal obligation of 4% of disabled workers to regular companies Training of disabled company workers in using tech innovations. Personal skill development programme.

History of Amfors

In 1969 the Dutch Parliament passed a new law in which the sheltered workplaces were established. This caused the creation of 90 regional and municipal organisations across the country. The shareholders being one or more local municipalities. They became responsible for the growing number of people that were not able to work in regular organisations. People with physical and/or mental handicaps found useful work in sheltered locations.

Before that time handicapped people got work organised by churches, local private initiatives or at farms in the countryside. It was not common that these people earned money for their work and many of them worked at home helping their family.

In the Amersfoort region 7 local municipalities created De Nijverheid on an industrial site in Amersfoort. At that time some 1500 handicapped people found useful work in green maintenance, metal working, production facilities and cleaning.

In 1998, the new Social Employment Act was introduced and the admission criteria were tightened with the so-called 4 x 10 rule. In concrete terms, this means: someone must deliver at least 10% production of what someone performs in a regular company, someone may not ask for more than 10% guidance from the working time of the department head, someone must be able to work 10% of the working time consecutively and someone must be able to learn two positions in 10 weeks. Furthermore, in 1998, supervised work in a suitable workplace at a 'normal' company with guidance by a job coach was introduced. The social employment provision is financed by the central government, the municipalities, not to mention the earnings of the sheltered themselves.

In recent years, the focus has increasingly shifted to supervised work outside the sheltered workplaces locations and since 2005 the indication for social employment has been issued by a separate governmental institution. Previously, it were the workplaces themselves and since 1998 the municipalities that gave the indication for social employment. Municipalities were advised by an independent indication committee, consisting of a doctor, psychologist, employment and labour market expert. Since 2018, the government adopted a new law in which and regular companies were forced, by reducing subsidies, to have more people working in these companies. Only the most handicapped people now remain in a sheltered environment.

History of AMIPI

Maurice Vendre created AMIPI in the 1960s because his son, who was born with Down's syndrome, could not follow a normal education. In 1961, the director of the elementary school said: "Reading and counting will be impossible for him. There is nothing we can do for him. "Maurice Vendre, convinced of his son's ability to progress and learn, refused this assertion and founded a medical-educational institute based on the Montessori methods in Cholet. Other establishments were subsequently opened and when Bernard turned 14, Maurice continued the adventure and launched medico-vocational establishments for young people aged between 14 and 18. Indeed, Bernard and his comrades still needed to learn and improve their skills. Finally, the opening of the first AMIPI sheltered workshops for manufacturing and packing appeared as an extension of this educational path. Today, these workshops have turned into "adapted" factories specialised in electrical wiring harnesses for the automotive industry and AMIPI is recognised as a public utility for its expertise in scientifically organised apprenticeships.

Project presentation

The main objective of the project is to improve our support and methods for people with disabilities to increase their self-confidence, self-esteem, motivation to take on new challenges and to engage new opportunities. We specifically target this topic because people with disabilities do not have the opportunity to participate fully in society and the economy due to a combination of barriers (e.g. economic, social, …) and their access to employment is limited by their low level of qualification, training or learning. Moreover, most people with disabilities suffer from a lack of self-confidence and self-esteem due to an often-chaotic background (e.g. social barriers, early school leaving, …).

The interest of industry for the development of people

Manufacturing activity, when it is concerned with and organised to develop people, has many advantages for the development of the brain's capacities.
Indeed, each learning, each new learned gesture and their repetition lead to the creation of new neurons, new synapses (connections between neurons) and the appearance of new neuronal paths.

Example from AMIPI and AMFORS:
- Joseph, diagnosed with Kabuki syndrome, was unable to coordinate these gestures when he came to AMIPI but, thanks to learning and repetition, he developed abilities such as dexterity, complex coordination, memory. He has blossomed and is now working in a traditional company, Leroy Merlin. "Today, I can say that I have overcome my disability through work".
- Jack has difficulties in remembering the assembly of products because the products may vary rapidly throughout the week. The Smart Beamer is an example of inclusive technology. It has been extensively tested with operators with a cognitive disability at Amfors facilities. It enables people to assemble more complex products because it supports the memory and physical handling of components to be assembled. Since he uses the Smart Beamer, Jack is very well motivated now being not obstructed by his memory. He is proud to make complex products without any mistakes. The support from the technology is such that now 4 beamers are used by disabled people within this company.

The manufacturing activity enables the development of different capacities, the hand being the extension of the brain: "the brain develops itself by manufacturing/doing" (cf appendix "The advantages of manufacturing activities"). In addition, inclusive technology can support the capabilities and skills of disabled people.

Mimetic psychology applied in AMIPI factories

The mimetic theory, which René Girard developed and used to explain the functioning of human societies and the violence in human history, postulates that all human desire is mimetic and is suggested by the desire of the other. In other words, we want things because other people want them or already possess them. If this common desire for the same object is not correctly managed, it can lead to rivalry and conflict. Prof. Oughourlian who worked with R. Girard extended this theory by applying it to psychiatry and learning (cf appendix "The main notions of mimetic theory").

First of all, it is important to understand and acknowledge that it is essential to have a model to learn. A question often asked is: Who is your model?

Secondly, it is crucial to find the appropriate model. The role model must be:
- Competent/skilful,
- Benevolent: through benevolent empathy, which consists in finding out what the other person desires, the model empowers him to be autonomous and to progress
- keen to transmit,
- vigilant about the poison of rivalry

Different types of models in AMIPI

Horizontal model:
The first models are the "elders", experienced operators who suffer also from a disability. They informally mentor and advise the new recruit because they have gone through the same learning process, faced the same difficulties, and overcome the same obstacles. Their enthusiasm and willingness to work, share, and produce are communicative.

Vertical models:
- The training assistant: operators who have mastered the operating procedures and quality instructions are taught by the internal training organisation in pedagogical methods to ensure training at the workstations.
- The production line assistant supervises a group of operators. It is a "proximity manager" who can intervene quickly to help when a problem occurs. Considered skilful, he is recognized by his peers for his vast knowledge and subsequent experience. His status and authority prevent rivalries from arising and disputes from happening. The line assistant is a support and an example for the operators as it helps them to become aware, to formalise the error and therefore to progress
- The supervisors are the top levels of the vertical models and are the real authority figures. They become a reference, a mimetic model who must know his role as a model and as a tutor and accordingly assume his responsibility. There are deliberately few supervisors in order to empower operators and production line assistants as it is the best way to get everyone to surpass themselves, try to deal with the problem at hand and develop a certain autonomy in the decision-making process.

It is important to differentiate power and authority: power is exercised from the top down whereas authority is invested from the bottom up. Authority cannot be imposed in the same way as power: I confer authority on my master if I consider that he knows better than me, and I then set him up as a model.

Learning factories follow the medieval model of "Compagnonnage", based on the transmission of knowledge between a master and an apprentice.

This process requires trust, patience and a clear hierarchy that allows everyone involved to understand their respective roles and responsibilities.

Create the desire

It is known quite well that in psychology, the desire is the movement. If there is no desire, there is no movement; and if there is no movement, there is no desire. Every movement requires an energy, a "driving force." It also supposes a finality, that is, a goal toward which its trajectory can be oriented.

Different goals at AMIPI:

- Production and quality objectives: These objectives, updated regularly, are individualised and adapted according to the capacities of each worker. They are challenging but reachable to avoid loss of motivation and confidence.
- Versatility/multi-skilling: We highly value versatility because it shows that the person is willing to take on new challenges, to assume more responsibilities and it is a very appreciated ability in inserting companies
- Integration in "normal company": By trying to find the professional vocation of our employees (cf Neurosciences), we awaken their desire to learn, to train, to develop and to grow. Moreover, operators who were integrated in a so-called "normal" company received a medal for integration and become role models for their former colleagues.

Poison of rivalry and scapegoating:

One of the main risks of mimetism is the emergence of rivalries and scapegoats. Rivalries are usually about rare objects, I want what the other person desires or has (For example, "I want the same job the other person wants").

How to avoid it?
- A clear hierarchy is a guarantee against rivalry, as role models are identified, are well aware of their mission to transmit and trained in specific pedagogical methods.
- Anticipation and organisation of work to ensure Fluidity, that is to say the dynamic of recruitment, learning and integration. The integration of a worker in a regular company allows the recruitment of a new person at AMIPI who will benefit from our learning. Change is part of the culture of the foundation: Rivalry over positions is

reduced because workers are encouraged to change positions and trainings to develop versatility are regular, thus allowing as many workers as possible to benefit.
- The individual and collective objectives are explained keeping in mind this sentence: "if you explain me, I get involved, if you impose me, I oppose".
- Establish a framework for moments of conflict: the "delicate discussion" which allows issues to be discussed and views to be confronted in the presence of a mediator.

Neurosciences

To project yourself confidently into the future, you need to be able to appreciate how far you have come**.**

Why was this programme created?

Based on the observation that our employees were lacking self-confidence and having difficulties to identify their own skills, AMIPI decided to create, in partnership with Pascale Toscani, doctor in cognitive psychology and lecturer at Université Catholique de l'Ouest, a programme specifically designed to tackle these issues and thus helping them to face new challenges.

It includes 2 approaches:
- A training course for the workers called Neurosciences and life project (cf appendix of the same name): Groups of 8-10 people and one trainer. We use an active pedagogy as the trainees have to read, write and discuss during the sessions and are therefore involved in the learning process. There are 10 courses, each lasting 3 hours, usually one per week to respect the learning time. During these sessions, the 3 main topics covered are:

    1.   Valuing one's cognitive path
    2.   Valuing one's skills
    3.   Valuing lifelong learning

- A workshop for supervisors to improve their support and management using neuroscience. Supervisors learn about the impact of success on motivation and self-esteem, the importance of mistakes in learning, as well as concepts such as the different types of memory and attention.

Thanks to the knowledge of how the brain works in a learning situation, we can:
    1. reduce the fears linked to novelty:
        o   internally: new job, new tasks
        o   externally: new company, new job
    2- increase self-confidence:
        o   I can learn

- these abilities are within me (wherever I learn and whatever I learn), my brain will function in the same way

The experimentation in the plants of AMIPI was a success and was perpetuated.

First outcomes of the programme:
- People are self-confident for the future, and they become actors of their project,
- New challenges were identified: becoming more independent (having their own flat), getting a driving licence, training to change jobs within AMIPI, looking for a job in a regular company, ...

Some words from people who attended this programme:
- Mathilde: "You learn a lot of things. I liked working on myself."
- Christophe: "It allows me to get to know my colleagues better."
- Gabriel: "A lot of reflections on different themes, which allows us to ask ourselves questions."
- Anys: "Everyone has their own vision of things and their own point of view. Everyone can see things differently."
- Christophe: "The training allows us to learn interesting things for the future."

The inclusive innovation approach at Amfors

Every Amfors employee can practice his/her profession healthily and with pleasure, until retirement. This goal has been set taking into account the further shrinking and ageing workforce of Amfors.

The average age will increase by an average of 0.5 years per calendar year in the coming years (2019: 50 years, 2024: 52.5 years and 2029: 55 years). Health risks and support needs are increasing, leaving employees more vulnerable. Amfors has two main innovation lines:

- the Inclusive Field Lab using modern technologies;
- the Coaching in the Workplace program.

Accompanying these innovation lines is a participatory-ethnographic approach.

In the Inclusive Field Lab Amfors employees can learn to work with modern assistive technologies. Based on the realization that our employees are our most important capital, the Coaching in the Workplace program focusses on the right guidance of our employees meaning that our employees - now and in the future - can continue to practice their profession.

How does Amfors use inclusive innovation?

Innovation as a concept has many definitions. For us, innovation means progress. Progress by looking critically at what we do and always looking for improvement. In addition, we do not believe that new is always better, but that there is always room to learn and improve.

Books have been written about creating an organizational culture in which innovation is nurtured and the scope of this Handbook is too small for that. Our experience shows that at least five basic conditions are needed for innovation: space to learn and experiment, a committed and critical team with an eye for the impact of innovation on people, support in all layers of the organization, budget, and learning from others. The most important lesson from our own practice is that these basic conditions are also constantly in motion and here too there must be room to learn and evaluate.

Room to learn and experiment

To innovate is to try, fail, learn from the failure and start over. Sometimes the renewal succeeds after the first round, in other cases it takes years before something works in practice. Change and uncertainty are an integral part of the innovation process, for both people and their organization as a whole. This requires a certain willingness and culture to change. Without people with the willingness to experiment and learn from this and an organization that offers the space for this, innovation is almost impossible.

An eye for impact

In addition, it is essential to have an eye for the human side of innovation and change. What are the consequences for the people affected by the change? Do they benefit from this change and do they experience it that way themselves? Without mapping and weighing the effects

for people, it is impossible to work towards improvement. If the end users or the people on whom this 'improvement' has an effect do not believe in the added value, the change will be short-lived.

Support in all layers of the organization

People often talk about support as a check in the process. You organize a few focus groups, the management puts a signature, and voilà: support. Google 'support' and you'll find countless ways and strategies to create support and 'convince employees of changes'.

In our work we see this differently. Support is not something that you let arise with a beginning and an end, it arises when you create the right conditions and let people be a fundamental part of the process. Support in this sense is about (intrinsic) motivation and personal affinity with the change. The right culture stimulates and supports people to come up with their own ideas for work improvement. Coaching is an essential element of this culture. A framework that we use to make this process transparent is the social psychological self-determination theory which is based on three basic human psychological needs. The need for autonomy, sense of competence and sense of belonging.

Do you really want to create support in a project or change? Then it helps to check whether these needs are sufficiently fed in the people involved in the change. Support in this sense has a lot to do with the sense of ownership that people experience over something new. A new tool that people use in their work, such as an Exoskeleton (examples of Amfors innovations are given in Appendix 2 and can also be found on the website www.inclusivefieldlab.nl), can be a change that people feel as having been imposed on them without consultation (connection) and that they have little control (autonomy) over, or that makes them feel that it is estimated that they cannot do without (competence). People very likely feel little ownership over this exoskeleton and will not be inclined to use it on their own. Introducing an exoskeleton as a tool, while taking these three elements into account, can actually encourage ownership. An introduction in which people experience what the exoskeleton can bring them (back support) and listen carefully to what they think of the solution is essential. Just like getting enough time to (if necessary with support) make the exoskeleton their own. When people feel involved and heard in a process as described above, they will experience more ownership over the innovation than in the first example.

In line with this, (more) support is also something that can expand like an oil slick and penetrate further into the department or organization. Good examples are worth their weight in gold because good examples leads to follow. Seeing a colleague enthusiastically working with a solution can help even the most change-averse people to try something new. That is why, as Inclusive Fieldlab, we name workers who are enthousiastic about one of our projects an ambassador. We write articles and make posters about them. This way, their direct colleagues will see the advantage of the corresponding innovation clearly. For us as Inclusive Fieldlab, our ambassadors are therefore extremely important. We ask them about their

opinions about new projects and invite them to give presentations with us. Like this, we can make our projects even more accessible to other colleagues as well.

1. **Using technology**

The 7 phases of innovation

The practice of innovating can sometimes be messy. Not every project goes through the same path, sometimes it's looking for the right direction. In this messy reality, an innovation model can help to make practice clearer and to offer guidance to development. Within the Inclusive Fieldlab, we use an adapted version of Nesta's innovation spiral[6], in which the different steps of an innovation process are described in seven phases. The assumption here is that an idea or a solution to a challenge ultimately has a real impact if it ensures structural and sustainable change. However, this does not mean that every innovation process can be expected to require equal investment in, for example, time and money, or that every idea will lead to structural change.

An essential element of this model, and the innovation process that we believe in at the Inclusive Fieldlab, is that innovation is a dynamic and not strictly linear process. After each phase there is a checkpoint where the question is answered: are we moving forward? Or are we going back? Or have we explored all the possibilities and are we making the decision to complete the project?

Our 7 phases of innovation are described in detail in Appendix 3.

2. **Coaching in the Workplace**

What is coaching in the workplace?

Coaching in the workplace is a method of evoking behavioral change with our employees, especially by talking to each other in a certain way about that behavior change. It is an effective method for employees who find it difficult to move, do not actively cooperate, show resistance or have conflicting (i.e. positive and negative) feelings and ideas about change.

Coaching in the workplace was originally developed in addiction care. Amfors has translated a proven effective conversation technique aimed at behavioral change (motivational interviewing) into the daily practice of our management and our employees. Motivational interviewing aims to initiate behavioural change among employees. Coaching in the workplace is therefore about activating and motivating conversation techniques and specifically for the daily work of our managers.

Coaching in the workplace is a conversation method with extra attention for:

- Nurturing an atmosphere where good conversations and effective communication is possible;
- Strengthening motivation, reducing employee resistance;

- Strengthening effective behavior and reducing ineffective behavior of employees;
- Providing targeted support to employees in their functioning and development;
- Feeding employees' own responsibility and direction, whereby the manager himself falls as little as possible into the trap of thinking and doing for the employee.

Connection and security

In order to be able to coach effectively in the workplace, firstly a helping relationship is needed that is characterized by mutual trust and respect between manager and employee. This helping relationship can be established quickly, but can also require more time. How the employee experiences the quality of the working relationship is more important for the result than how the manager experiences the quality of the working relationship. Connection & security is rated by the degree to which someone feels a comfortable and equal participant in the conversation.

With connection & safety, the manager pays attention to, is interested and gives room for:

- Wishes or goals: what does the employee want or what does the employee hope for in his work?
- Interests: which things are important to the employee? What are his priorities?
- Positivity: what does the employee like, what gives him energy and pleasure? What is the employee proud of?
- Expectations: what expectations does the employee have about the work, the division of roles and the future?
- Hope: what is the employee hoping for?
- Doubts and worries: what is the employee worried about? Or does he have doubts about it? What is he insecure about?

Nurturing connection and security can be done by taking into account just the four basic psychological needs of a human being. In general, people feel most comfortable when four "basic psychological needs" are met — this model is based on Deci & Ryan's[4] self-determination theory. This applies to everyone, to an employee, for whom receives government payment or to being a manager.

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Autonomy
Independently being able to make your own choises and decide your own actions and receiving the space to do so.

Recognition for independence & control

"You decide the next step"
"What is most important to you?"
"You don't really need me for..."

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Inclusion: Belonging
Being welcome and belonging to a group which makes you happy; the feeling that others are happy that you are there

Recognition for presence

"We're happy that you're here"
"You make a valuable contribution to the team"
"The employer is very happy with you"

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Affection: interest / appreciation
Feeling accepted, seen, heard and appreciated for who you are as a human.

Recognition for who you are as a person

"I understand how hard this most be"
"You are such a beautiful human"
"I am curious what you think of this"

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Competence: trust in ability
Trust in your ability, capability, experience and knowledge by yourself and others

Recognition for what you know and can do

"One of your qualities clearly is..."
"I'm sure that you will succeed!"
"How does it feel to accomplisch something like this?"

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When the employee feels that this need is no longer being met, this can cause resistance. For example, when the employee experiences that his autonomy is under pressure, he can react excessively contrarian. In order to regain a sense of control. These basic needs are basic conditions for an effective conversation, strengthening motivation or influencing behavior (to feed optimal functioning or development). The basic needs are interrelated, but most employees have a basic need that they consider most important. If one basic need is under pressure, another is often under pressure. If an employee does not feel free to make his own choices (autonomy), then confidence in his competence is often also under pressure ("If I were taken seriously, I would have been allowed to decide this myself"). The other way around is also true: an employee who does experience (self) confidence in his own abilities often finds it easier to make his own choices. By feeding the basic needs, a manager lays a nice foundation for connection and safety.
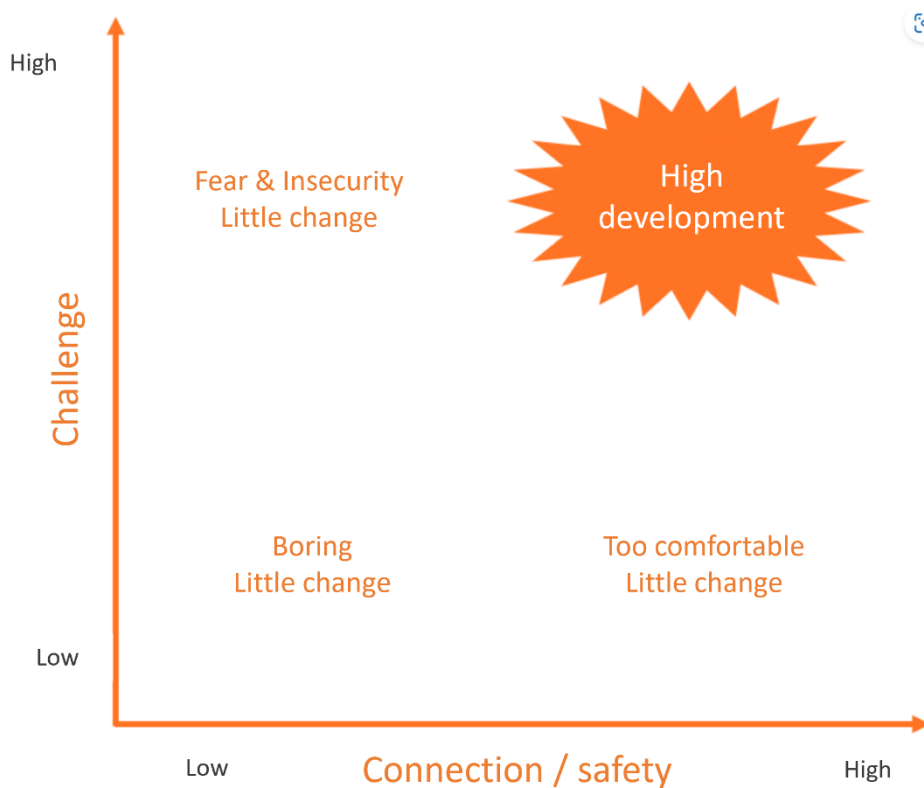
Challenge

Challenge is the feeling of the employee that something is being asked of him / her that is slightly more difficult than he is used to, finds comfortable or thinks he can do. Challenge can be a task that the employee finds difficult, a silence in a conversation that he finds uncomfortable, or a question that he finds difficult to answer.

Asking something from the employee that is (just) a little more difficult than he is used to. For example, by:

- o Dropping a silence that triggers the employee to think about the subject himself or, for example, to think critically about his own behavior

- o The manager asks many (open) questions to the employee and gives him/her time and space to think. The manager makes the question a bit smaller, or gives options instead of answering the question for the employee
- o The manager asks the employee to perform an action or a task that is new to him/her or is at a higher level than he/she is doing now
- o The manager makes learning and development something fun and valuable. The manager focusses on the process and taking small steps, gives a lot of positive feedback also on starting or trying (without always having a success or result) and change. The manager offers the employee many opportunities to practice (safely) with new situations, skills or actions.

The balance between connection/security and challenge

Communication between a manager and an employee is placed on two dimensions: on the one hand connection and safety, on the other hand challenge. Two dimensions that are both necessary for an effective conversation. Because if a manager wants to achieve more with the conversation than just catching up, then one cannot do without the other. Without there being a connection and a lot of challenge, there will mainly be uncertainty and fear among the employee and distance. With the risk that the manager achieves little, little change will take place and that it will only become more difficult to connect with the employee.

The opposite is also true: especially feeding connection with the employee, without a challenge, will above all ensure a pleasant and nice conversation. The employee feels valued, safe and comfortable with the managers. But at the same time it also feels little reason and

urgency to change and take on a challenge. In the longer term, only providing connection & security can even lead to a feeling of boredom or demotivation in the employee.

Working from partnership

Coaching in the workplace means that the manager enters into a collaboration with the employee and that he / she takes into account the perspective of the employee. It is about the manager creating a stimulating atmosphere, in which he / she encourages (and does not force) the employee to change. By partnership, we mean:

- Reduce (social) distance and hierarchy:

As a manager, do not put yourself above the employee, but next to the employee, the manager also shows something of himself (as a person, not only as a manager) and emphasizes that he / she likes to talk and work together with the employee.

- Recognition of the employee's expertise:

It is important to recognize and acknowledge the knowledge and skills of the employee, even if he has considerable limitations. Everyone has talents and expertise, no matter how small. The manager recognizes and names the expertise, and mainly puts the employee on tasks where he / she can use those talents. This offers a lot of security, but also connection: the employee notices that the manager sees and appreciates his talents. It is also important that the manager keeps an eye on the fact that the employee is able and has the right to make his own choices. Even with employees with intellectual disabilities, there is always an element of competence and autonomy that the manager can value and nurture.

- Trust in the employee:

The manager has confidence that the employee acts in good conscience and does his best within his possibilities. Trust that there is a reason for the behavior, even if his behavior is not so pleasant or effective at first glance. The manager also makes no assumptions about these reasons. This trust is strongly linked to partnership.

- Being honest about goals and interests:

The manager keeps an eye on his goals, so what he / she wants and needs to achieve. And what the organizational goals are and what those of the employee. After all, the manager has more goals and interests than just the development goal of the employee. Being honest about these (sometimes different) goals is important.

- Don't shy away from 'harsh realities':

The manager makes it negotiable with the employee as an equal. If an employee makes a choice in his behavior that falls outside the house rules of the organization, the manager calls the 'harsh reality' of the consequences of that choice important to do. Not to 'bully' the employee, but also to give substance to partnership and feeding the autonomy of the

employee. The manager shows that you treat the employee as a full-fledged employee. Good conversations are therefore more like dancing than struggling: the manager moves more with the employee than against the employee.

Application within Amfors: the development interview

Every employee at Amfors is entitled to an annual individual development interview. The purpose of the interview is to make a plan that contributes to the development of the employee.

The managers have a facilitating role. The will to change must come from the employee himself, and also in what way comes from the employee. This increases the chance of development.

The development interview is about the future, the optimal functioning of the employee in the coming period. The manager evaluates the performance together with the employee, this is always done with a view to solutions for the future. Not to 'linger' in the past.

The topics can be task- and production-oriented or people-oriented. Task-oriented topics are about agreements about functioning in the future. For example, people-oriented topics are about the challenge that (still) exists for the employee in the current position. Or what support the manager can offer to allow the employee to come into his own (now and in the future).

Participatory-ethnographic approach

In this approach, project leaders engage with employees while they are working on the work floor; about the problem to be solved and about their work in general. By forming a good picture of the work, the context in which this work takes place, and by talking to employees, we understand from the inside how employees have the problem or possible improvement in mind: the ethnographic method. Subsequently, employees are closely involved in the development of possible solutions and form the primary source of feedback: the participatory approach.

Participatory-ethnographic approach

Getting to know the end users (employees) and their work is an important condition for being able to properly guide an innovation process. Without knowing what the end user is doing, it is almost impossible to take into account individual basic needs and sustainable support is very likely unfeasible. This introductory process can be time-consuming, for both project leaders and end users, but has proven to be an important condition in each of our projects. Together with Maastricht University, we have developed and applied a method for this, called the Participatory Ethnographic Approach[5]. This is a bottom-up method that starts with the living environment of employees and helps to determine the direction of the programme together.

Ethnography is a method that comes from anthropology, a social science that studies how people go through shaping and managing social relationships and rituals. The method is aimed

at gaining insight in people's experiences, perspectives and practical actions in a certain setting, in this case a work organization. It is an open method to get to know an organization, where you use observations, participation, informal conversations and interviews. See also Appendix 3.

Appendix 1

Why and how the industrial manufacturing activity, especially wiring, has several advantages.

-   Firstly, volume: the large volume allows for continuous and accessible learning for all operators. It is estimated that it takes an average of 1000 hours to train an operator over a year.
-   Recurrence: a necessary recurrence of the tasks performed for cognitive development and reconstruction.
-   Decomposition: the possibility of breaking down the manufacture of the electrical harness into several simple tasks to allow learning and skill development of the operators. Indeed, the tasks are divided into several stations (cutting, pre-assembly, assembly, (adhesive) taping, electrical control, etc.). The planning of their realisation by all the operators is a major managerial skill. It is an individual, collective and complex responsibility which required the implementation of collective coaching, particularly around the notions of "assertive leadership" and "collegiality". The breakdown into different activities and tasks allows the operator to become versatile, this faculty favours adaptation in classic companies thanks to the development of transversal skills, nevertheless, it must not be done to the detriment of the stability of the operators for their progression. It is also necessary to ensure that the operator does not "flit around", i.e. that he knows several jobs without mastering them.
-   Complexity: relative complexity in the manufacturing process which allows maximum development of neural plasticity. Complexity, like the diversity of the electrical harnesses, allows a breakdown into sub-assemblies, which favours the gradual progression of each one. The aim is to make the operator successful while offering him an activity that is sufficiently complicated to maintain his interest.

The main notions of mimetic theory

➔ A brain alone, no matter how healthy, cannot function. Even in a certain solitude, each of us strives to build himself through his relationship with the other, **the interdependence of human beings connected by imitation**, that is what Jean-Michel Oughourlian and René Girard called interdividuality.

As early as the fourth century BC, Aristotle noted that man is a mimetic animal par excellence and this ability to imitate is the key to learning. In fact, we have a natural tendency to imitate from the day we are born and we continue to do so throughout our lifetime. We imitate when we want to learn to speak, write, use a tool, behave socially etc. In short: it is because I imitate the other that I build myself as *Me.*

I am not me without the other. I am not, tonight, exactly the same person I was this morning. The television programme I watched, the newspaper I read, the discussions I had with my colleagues, my friends, and even the advertisement I saw have necessarily influenced me. The mechanisms of mimicry have reshaped *Me* (to understand as myself), and will continue to do so throughout my life, depending on the models I adopt.

The mimicry hypothesis has been supported by advances in neurology, particularly those linked to medical imaging, which have made it possible to discover the amazing mirror neurons.

The discovery of mirror neurons

The discovery of the mirror neurons, like many others, was a coincidence. In Parma in 1995, Professor Giacomo Rizzolatti and his team were studying the brain activity of a monkey using a PET scan[1] when, during a lunch break, they noticed on the monitor that as soon as a guest moved his hand in the pizza's direction, even before touching it, a zone of the monkey's brain specifically linked to the real action of eating was activated without really eating. The monkey was observing the neuroscientists and was obviously anticipating the following gesture. Similar neurons were later discovered in the human brain using more sophisticated PET scans.

Experiments showed that mirror neurons are activated when:

- We make a precise motor action (that is directed towards a specific goal),
- We observe another person performing a similar action,
- We think the other will perform the action,

⇨ **These neurons play a significant role in the neural coding of actions, motor learning and sensory-motor associations.**

Yet, an important factor for the activation of mirror neurons is the understanding of the purpose of the action, i.e. the intention of the person doing it. These neurons will be stimulated if I see your hand approaching a glass of water and know that you are about to take it, bring it to your lips and quench your thirst. Moreover, I would then spontaneously need a glass of water because you have not only awakened my mirror neurons but also my desire to imitate you[2]. The desire to imitate is crucial for the stimulation of mirror neurons : the brain of a tennis player who is attending Roland-Garros will be the scene of an explosion of colors on the PET scan screens[3] whereas the brain of a layman will show much less activity because

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[1] a medical imaging procedure that measures the glucose absorption of regions of the brain and thus identifies which are activated to carry out a given activity.
[2] This is not possible if I don't understand the purpose of your gesture or your intention, or if there is nothing on the table
[3] The same applies to a pianist listening to a Beethoven sonata, a footballer watching a match, …

he has no motor experience of the actions observed, as well as feeling less concerned by the activity and therefore not aspiring to imitate the person playing.

The archetypal model is initially the parent who interacts with his young child. Their relationship is made of continuous imitations and suggestions. The father or the mother shows the way by naturally suggesting the gesture to imitate. Then, the child imitates it to learn how to talk, how to walk, and how to socialize. Afterwards, the model can be a friend, a companion, a partner, or a master. The mirror neurons, and so the mimicry, grasp the smallest points that allow us to feel the desire, such as the desire to have fun, learn, succeed, and move forward in our life.

According to Prof. Jean-Michel Oughourlian, our brain is divided into:

- The 1st brain: localised in the cortex and associated to cognitive functions,
- The 2nd brain: also called the limbic system, is the seat of our emotions,
- The 3rd brain: composed of the mirror neurons,

All three continuously interact: in a learning situation, the first one certainly retains the information, but it needs the second to awaken the essential emotions needed to facilitate the learning process (I learn much better when I'm ready and happy to learn). Then, in my third brain, the mirror neurons are stimulated. Now and only now, I am ready to imitate my model and he is quite satisfied to see me imitate him and learn what he wants me to learn. We all know that nothing is better than the dialogue and the relationship we strive to build with others over time, intending to learn for example a new language, a new profession, integrate into a new environment, or start working in a new company. We are and/or remain, throughout our lives, apprentices in search of a model to imitate (him and his desires).

Mimicry is not copying identically nor following blindly. We are free to choose the model to imitate and we add and subtract information regularly from what is received from him.

However, the desire, which creates imitation and is the basis of the learning process, is not static. Because of the amount of information provided by the cognitive and emotional brains, as well as the constant interaction with the other's brain, the mimetic movement of our third brain oscillates between two contradictory attitudes: empathy when I consider the other as a model to be imitated, or rejection when this model becomes a rival, or even an obstacle, to the fulfilment of my desire and ambitions (promotion, recognition, …).

We thus end up with what Professor Oughourlian calls "the disease of desire": any common approach is blocked. The slightest speck of dust, real or imagined, can block the harmonious gearing of our three brains. Mimetic rivalry sets in and is corroborated by the first brain (which provides intellectual justifications) and by the second (which engages in emotions). Empathy then turns into dissension, and positive mimicry as a source of learning is unfortunately blocked.

➔ Understanding the mechanisms of the mimetic movement is the only way to better control it and avoid unnecessary and futile rivalries.

NEUROSCIENCES AND LIFE PROJECT

1. Trying to understand how does the brain work

It is essential to explain the principles of brain function during the first sessions as this will lay the foundation for many of the training sessions.

We use a method base on brain plasticity, the brain's ability to change and adapt (modify its connections, re-wire itself) as a result of experience
- You can learn at any time.
- You can improve.
- You can change.

Principles:
- Each brain is unique (learnings, experiences, …)
- We can learn at any time in our lives (baby, child, adult, senior) and we are responsible for it (good diet, social life, …)
- Everyone makes mistakes and it is important to learn from them,
- There is a link between self-esteem and skills: if I'm confident and I have a good self-image, I feel more competent.

2. The importance of self-introspection about one's skills, hard and soft,

The aim of this part is to help trainees recognise their own skills: we use skills daily, but we are not aware of it.

Few examples:
- What skills do I use to get to work? I need to anticipate, …
- What skills I need to shop? I need to know how to make a checklist, …

We also develop skills through work, they can be technical or social.
The examples come from the trainees' experiences:
- I can follow a procedure,
- I know how to talk to my managers (politeness, …),

All those skills can be useful to take up any challenge as they are cross-functional.

3. Lifelong learning and projects

For the last part of the program, we ask participants to identify challenges they have already met because it is important to recognise one's successes in order to feel competent and thus project oneself towards new challenges.

After this, everybody chooses a challenge: a personal one (passing a driving licence) or a professional one (a new job within or outside the AMIPI).

It is important to try to make something difficult every week, with a good balance.
If it's too difficult, you are going to give up. But if it is too easy, there is no interest.
  ⇨ A challenge is something that is difficult for you and whose achievement makes you proud.

The challenge will be divided into smaller steps. You will have to reach smaller goals and it is going to get easier and easier.
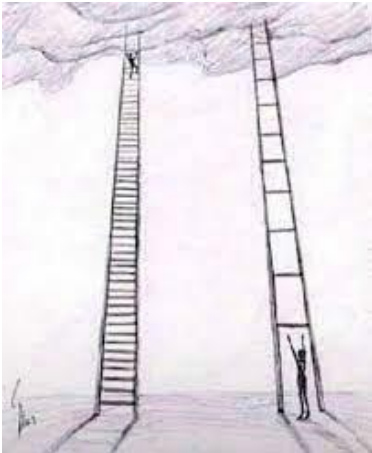
The importance of small steps

When you manage to reach the first goal, you want to reach the second one at all costs. Motivation is linked to succeeding the first small step and you are involved in the process.

For example, when a production agent starts working at AMIPI, his first job is determined according to his capacities. The difficulty must be adapted so that he does not get bored and develops skills. As he progresses, the production operator will change to a workstation with more complex tasks.

At the last session of the programme, the trainees have an interview with their manager and the trainer, where they introduce themselves and discuss their future challenges. This is the first step in providing personalised support for the individual and forms the basis for discussions during annual interview.

Appendix 2 Examples of inclusive innovations

Smart Beamer

Exoskelet
Een steuntje in je rug bij til-werkzaamheden

Smart Beamer
Complexe taken worden eenvoudiger

Cobot
Cobot: robot als mens-ondersteuning

Spire
Inzicht in (ont)spanning tijdens het werk

3D printer
Hulpmiddelen binnen handbereik

Coachen op de Werkplek
Evidence-based motiveren

Travis de Vertaler
Elkaar begrijpen op cruciale momenten

Slimme Bril
De virtuele hulp voor magazijnmedewerkers

Vitaal Vakmanschap
Samen bepalen hoe we gezond aan het werk blijven

Appendix 3 The 7 phases of Inclusive Innovation at Amfors

Phase 1: Opportunities and challenges

Some projects start with a question, some with an idea. *Demand-driven innovations* and *idea-driven innovations*. Demand-driven innovations start in phase 1, idea-driven innovations skip this phase and start in phase 2. We explain this second category in [phase 2.](#)

Within the Inclusive Fieldlab we believe that innovation should be a means and not an end in itself. That is why innovation often starts with a question. How can this be improved? How do we make this work lighter, more fun, easier? We map out this question as completely as possible. What exactly needs to be improved? What elements of the work can we name that should be lighter, more fun, or easier? Where the need to pursue change comes from is important. Below we explain what the influence of this is on the further process.

Does the demand for a solution come from the workplace and are people unable to come up with a conclusive solution themselves? Then the next step is to further map out the need and the work within which the solution must take place. We do this according to the participatory-ethnographic apporach, as described earlier.

In this way you can experience what people are up against and even more importantly: you can find out why something is done in a certain way. This approach has not only proved crucial for the proper formulation of the problem definition, but also for ensuring the connection of the solution with the end users. If the developed solution does not sufficiently match the living and working world of the end user, then the chance that the solution will bring lasting improvement is small.

Every project within the Inclusive Fieldlab starts with a project plan according to the following format.

Voorbeeld projectoverzicht

Phase 2 Exploring and choosing ideas

For us, some projects start at this stage. These are the projects that started with idea-driven innovations. An example of this is the exoskeleton, a solution that we came across and of which we thought, there is potential in this. Idea driven means that the idea came first and we then started looking for a suitable workplace for it. This idea is usually a solution that we have seen elsewhere that we think might also be appropriate within our company.

To determine this, we ask ourselves the following questions: Does this new technology, whether or not proven by other organizations, also have potential within our organization? In this case, based on (research) results, we map out what the innovation can offer a solution for. We then set out the question within the organization to check whether this problem is recognized. Is the problem recognized? Then the exploration starts in practice.

In this next step, the goal is to generate different ideas and ultimately choose the 'best' idea to further develop. In some cases this can be clear quickly, but it can also be a long process where it is not immediately clear what the best idea is for the challenge. During this step in the process, it can help to define requirements or criteria that the new situation – and therefore the idea – must meet. It is important to consider who will be involved in the project. For example, it is important to involve the end users in this step: what do they expect and when are they satisfied? After all, they are the people who have to work with the innovation.

In addition, it can help to work with the relevant department(s) to experience the current situation yourself (see also participatory ethnographic approach). This way you can best learn

and experience where the challenges are, why something is done in a certain way and you also get ideas about how it could be done differently. By cooperating you also get a better picture of which ideas are feasible and which are not, which will help in 'choosing' the best idea.

At the end of this phase we choose one idea with which we continue, if this idea does not succeed, then we go back to phase 1.

Considerations

After exploring the ideas, it is important to reflect on the considerations made: in which activities could the innovation help, does the innovation provide more accessibility, does the innovation create additional obstacles and do we have the knowledge in-house to be able to carry out the development of the innovation (and if not, there are resources available to hire or attract them). If, after making these considerations, the innovation still turns out to be a good idea, the innovation can be further developed.

A number of central questions in this phase are therefore:

1. Who within the organization should be involved in this project?
    1. Who is part of the project group?
    2. And what is the division of roles in this?
2. Who are the intended end users of the solution?
    1. And who are other stakeholders?
3. What are the requirements and criteria that the solution must meet in any case?
    1. And how are we going to measure this?

Phase 3: Development and testing

Development

In this Handbook we make a distinction between the use of an innovation that can be purchased without adjustments from a supplier (exoskeleton) and an innovation that (based on an existing technology) is adapted so that it can be used accessible in a specific company (Cobot, Smart glasses, Coaching at the Workplace, Smart Beamer).

What the development of the innovation subsequently looks like strongly depends on the type of innovation. In a highly technological innovation such as a Cobot, this development will consist of preparing the workplace (e.g. making a tool with which parts/materials are offered to the cobot), the work (programming the cobot) and in particular the employees (who is suitable to work with the cobot? Providing good instruction). What steps must be taken before the existing technology can be used in an inclusive way (with practical supervisor/[1st] employees/foreman: selection employee; practical supervisor informs the intro of the innovation, learning phase, test phase, inclusion in production, evaluation) with the department?

It is important to take time for this development. There must be room to learn from the obstacles you encounter and to come up with a solution for them. The initiation or commissioning of the innovation must also be accessible. For us, therefore, the following applies: a practice supervisor / team leader must be able to adjust the work instruction of the [Smart Beamer](#) , a foreman must be able to adjust an [Exoskeleton](#) .

Another important point of attention is that this development is also about making an innovation fit within your company. A large, technically advanced producer has other "resources" to be able to deploy and develop the innovation. In addition, the innovation is developed with a different primary goal (accessibility vs. efficiency).

Testing the innovation often goes hand in hand with applying it in practice. The development of an innovation does not stop if it has been deployed in practice. Based on the experience gained, the innovation can be optimized or other activities can be sought in the innovation.

Phase 4 Making a business case

In the previous phase, we looked at how you can set up the chosen solution in such a way that it offers a solution to the question or problem. How this process works depends on what kind of solution it is: plug-and-play or DIY. In phase 3 you ensure that the innovation is applicable within your organization and you critically check whether this solution does what you expect it to do.

In this phase you build on what has already been done in phase 3 but you further develop the business case. In a regular company, you investigate the financial-economic potential of the innovation in a business case in addition to the organizational feasibility within the company. In our innovation process, a business case serves more as a guideline and means to make the following choice: are expected (social) benefits in proportion to expected (financial) costs.

It is important not only to look at the financial aspects, but also to include the social costs and benefits in the business case. For example, you may save on certain social costs by using this solution. An example of this is that savings can be made on healthcare costs by working on a better ergonomic posture during work.

When making the business case, you answer the following questions: can we continue to use the solution in the long term? And is that affordable?

Some important checks in this phase are:

1. Is the project a one-off investment, or are there any permanent costs involved?
    1. In the latter case, include these recurring costs in the business case.
2. In addition to financial costs and benefits, are sufficient social elements included in the business case?

If so, can these be financially substantiated?

Phase 5 Applying in practice

After the practical test in Phase 3 and making the business case in Phase 4, the extensive practical test starts in Phase 5. In this phase, we investigate whether the innovation can also be used in the longer term. This phase therefore ends, just like the others, with a judgment: continue (scale up), go back (recalibrate the business case or even back to testing) or stop the implementation altogether.

In this phase, an important consideration is the choice between speed versus thoroughness in the application of the solution. Making the right trade-off between quick or thorough is about striking the right balance/making the right choice about the time you spend preparing for this phase and starting to try it out. On the one hand, it is important to prepare this phase well so that the actual application proceeds quickly. The rapid progress of this process will ensure that there will be more commitment among employees. However, if a lot goes wrong due to the rapid implementation and the idea does not seem to have worked out properly, employees can become demotivated and you lose support. Than there is a real chance of losing the image and reputation of the innovation with potentially disastrous consequences for the project. First impressions are extremely important and an introduction can only be done once. If this introduction goes wrong or end users have insufficient insight into the process, it becomes extra difficult to get people on board for follow-up steps.

On the other hand, you don't want to take too long to prepare for this implementation because it can seem to the employees as if nothing happens anymore. It is important for the commitment that enough visible steps are taken. For the support and motivation of employees, it is therefore important to start applying it in practice as soon as possible. This trade-off between preparation and application is therefore a difficult one.

In this phase, you carry out the business case that you drew up in phase 4. During implementation, you can place this business case next to your results of this phase to see if the implementation meets your expectations. If this deviates and the implementation is not successful, you can make the choice to go back to phase 2 or 3 or to stop this project. If the implementation is successful, it can be investigated whether there are more people and workplaces where this solution could work. The project then moves to the next phase, phase 6. Another possibility is that the way you came up with the solution in phase 5 turns out not to be the right way. You can then choose to go back to phase 5, to adjust it.

It is important to agree on a date before the end of this phase that a choice is made to evaluate and end the phase by determining a next step. This deadline is important to prevent this process from going on for too long without positive returns.

At the end of this phase, we ask ourselves several questions, including:

1. Is the solution sufficiently proven for us, and are there other people for whom this solution can work? If so, a follow-up to Phase 6: upscaling applies.

2. Has the added value of the solution been sufficiently proven but does the application to the work not yet fit well enough? Then a new Phase 5: application in (another) practice is needed.
3. Does the solution still not work sufficiently? Then make the decision to go back to Phase 2 or Phase 3, or decide to close the project completely.

Phase 6 Upscaling

Is the project strong enough and is the innovation sufficiently proven in practice to structurally embed in the organization, and can it be explored whether the application can also be applied in other places? If so, it's time to start phase 6.

The innovation has now been extensively tested and costs and benefits are known. Preconditions for employability have (largely) been mapped out; where and how can the solution best be used. The innovative solution can now be scaled up and implemented at more or other workplaces and applications. Constantly learning and improving the developed solution is an important part of the innovation process, but not the main focus in this phase. Scaling up itself can be challenging enough.

The complexity of scaling up an innovation is highly dependent on the type of innovation. An innovation in which a *ready-made / plug and play* product must be purchased and possibly adjusted to an employee (for example Brace, Spire or Exoskeleton) can generally be scaled up faster and on a larger scale than, for example, innovations such as the Smart Beamer, Cobot or the Smart glasses.

These inclusive innovations often consist of customization and are adapted to the activities and employees in which they are deployed. If a project is scaled up, this often means that the innovation is also used in a different way or place. This requires a critical look at the innovation. It must be investigated whether an innovation can be used in the same way or whether adjustments still need to be made.

In this phase, think carefully about the essence of the innovation that is being scaled up. Look at what the aspects of the innovation are that make the innovation successful, and look from these aspects at the next steps that are needed to be able to use the innovation in other workplaces.

Phase 7 Structural and sustainable change

The final phase of the innovation process, structural and sustainable change or the safeguarding of an innovation, is perhaps the most complicated and important phase. Yet, or perhaps precisely because of this, this phase often remains underexposed. The new solution works and has proven itself in different places and with different people. Everything seems to run by itself.

Although these are all signs that the previous phases have been completed well, this does not guarantee the assurance of an innovation. The most important part of this phase is the

abandonment of the project by the project leader. The central and connecting role of the project leader in phases 1 to 6 is crucial in those phases but cannot go on indefinitely. The project leader must make himself dispensable; he is no longer crucial because the operator has gained knowledge and motivation to perform and feel well.

Crucial parts of this are the realization that the time and resources that the project leader has put into this project and continues to stop now have to be taken care of by others. In an ideal situation, a new solution makes the work of end users and staff (e.g. managers) around them easier and more efficient. Nevertheless, any change, including this innovation, will take more time and effort in the beginning than the usual course of events. Adapting and changing takes time and effort, and everyone must be willing to do this if a new solution is to become the new status quo.

In an ideal situation, a solution has landed so well and requires little adjustment from others that a project leader only has to withdraw. Practice is often more stubborn and project leaders have to set up a system together with and around the end users. For example, managers should have enough time and experience space from their supervisors to provide additional support.

Securing a new solution is, even more than the previous 6 phases, tailor-made. Nevertheless, we can give a number of lessons about this crucial process and we explain a practical example in Appendix 4.

Appendix 4 Securing the Smart Beamer

Several Smart Beamers are used in the production process within Amfors. The technology works almost flawlessly and employees, managers and other stakeholders know the technology. The 7th phase (securing) revolves around further embedding the technology in the daily work of Amfors. In concrete terms, this means answering the following questions:

1. Who is responsible for creating new work instructions for new products and how is this person supported?
2. Who is responsible for technically updating the Smart Beamers, not only to keep them running but also to ensure that they have up-to-date hardware, and how is this person supported?
3. How is it ensured that employees who work with the beamers receive guidance, that they look at where development is still possible, and when they can, for example, move on to more complex work?
4. Are other parts of the organization involved? Creating a support network is very important here, which means that everyone who works with and around the technology is aware. For example, for work preparation, the Smart Beamer may require adjustments in the type of work they offer or how they offer this work, for commerce, the Smart Beamer can accept more complex work, but with certain requirements. When commerce in this case is not included in the technology, a

mismatch can arise here, which can lead to unmatched work types and untapped potential. Appropriate work is another requirement, not every work fits the application of the Smart Beamer or exploits the full potential of the technology.

Technology Readiness Level (TRL)

Nesta's 7-phase model helps us to give structure and direction in the innovation process. The advantage of this model is that it cannot be applied exclusively to technology but also to social innovations. A disadvantage is that the 7 phase model, although there is a lot of common ground between different innovation models, is not a standard model and may not be as widespread as others. If there is a need for this, the Technology Readiness Level (TRL) model can also be used. As the name suggests, this model developed by NASA helps to map the phase of development of new technology. The TRL model describes 4 phases, (1) the Discovery phase, (2) the Development phase, (3) the Demonstration phase, and (4) the Deployment phase. These phases are then divided into 9 different levels, respectively from the start of development to the moment the innovation is Market ready. See also appendix 2.

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1 Mogelijkheden & uitdagingen
2 Ideeën verkennen
3 Ontwikkelen & testen
4 Maken van "business" case
5 Toepassen in praktijk
6 Opschalen
7 Structurele & duurzame verandering