



Working together works!

A practical handbook to help ICT companies collaborate successfully with vocational and professional education



Working together works!

The ICT sector is developing at lightning speed, which creates opportunities and challenges. After all, how do you ensure that you have enough staff and that your staff is up to date with the latest technical knowledge so you can stay afloat in this highly competitive market? One solution is to work more closely with the education sector. This publication is based on the experience of ICT companies with their educational partners in the Netherlands. We would like to share our lessons learned and hope to inspire you. Since the publication is based on the Dutch context, some of the examples provided may need some translation to be applicable to situations outside the Netherlands. Nevertheless, we hope you find them useful!

Education is the engine for your business

To grow as a company, you need the right staff. In the Netherlands, these people are often trained at a regional vocational education institution (MBO) or professional education (HBO) institution. Wouldn't it be a great opportunity for you to see the most talented students before they even enter the job market? Or have students research new technologies you can use to tap into a new market? Or the other way around: wouldn't it be incredibly inspiring for your employees to teach and thus to developing your future staff? The time to wait is over: let's actively seek collaboration with education!

Are you already working with the education sector?

Collaboration is certainly not a new idea. Chances are that you did an internship or graduation project at an ICT company yourself. Companies that already do this give the collaboration an average score of 7.4 (out of 10). However, a survey among ICT companies (up to 250 employees) found that 1 in 3 sees the opportunities that collaboration can offer but does not yet seize them. They indicated that they first need insights into what collaboration costs in terms of effort, what it delivers, and what you need to look out for. This handbook can help you with that.

Three steps to success

This handbook describes three simple steps you can use to get started right away. It offers concrete reasons to collaborate, inspiring practical examples, and valuable tips that can make your collaboration even more successful. And the great thing is that all the information comes from other ICT companies and therefore directly from daily practice.

What now?

Read this handbook, get inspired, and get going! Would you like to brainstorm about a possible collaboration with an educational institution? Then contact the Human Capital Agenda ICT at info@hcaict.nl or visit dutchdigitaldelta.nl, or Katapult at hello@wearekatapult.eu or visit www.wearekatapult.eu.

Because working together works!



Research design

This handbook is an analysis of input from the following sources:

- desk research,
- interviews with ICT companies,
- meetings and brainstorms with project leaders from public-private partnerships, and
- a survey of NLdigital members. NLdigital is the branch organization for ICT in the Netherlands.



Chapter 1: The roadmap for collaboration

You can build a successful collaboration using the three steps listed below. Each step includes references to chapters in this handbook.



Step 1: Develop a vision for collaboration

1. Think about why you want to work together.
 - review the frequently mentioned reasons in Chapter 2
2. Determine which type of collaboration suits you.
 - find inspiration in various forms of collaboration in Chapter 3
 - use the decision tree to find the form that suits you best
3. Decide which educational institution you want to work with in your region.
 - consult the appendix for a list of VET providers and Universities of Applied Sciences that offer ICT education in the Netherlands
 - on www.wearekatapult.eu you find an overview of international public private partnerships, collaborating on European level.

Step 2: Explore the possibilities for collaboration

1. Contact the desired educational institution.
 - ask to speak with the director of the ICT degree program
2. Discuss your ideas and desires.
 - consider the examples in Chapter 3
3. Decide which initiative you're going to start.
 - investigate the extent to which you can connect to subjects the students are working on or are interested in

Step 3: Set up the collaboration

1. Make a plan together.
 - find valuable tips in Chapter 4
2. Start working together.
 - begin with a shared moment (e.g., in the classroom) and consider inviting the press
3. Monitor progress and make changes where necessary.
 - if you like you can add your public private partnership to the network map on www.wearekatapult.eu so others can find you.

Chapter 2: Why should I collaborate with the education sector?

Companies cited four reasons for collaborating with educational institutions, all of which are listed in this chapter. If you recognize yourself in one or more of those reasons, then collaboration is an obvious advantage.

A. You're working to find a solution to your staff shortage

Recruitment is by far the most frequently mentioned reason for collaborating with schools. Some companies even judge the success of the collaboration by the number of students who join the company after an internship. What are the benefits?

First choice of talented students

Many companies see collaboration with education as the best opportunity to bring their company to students' attention. You can also meet the most talented students before they enter the job market as an entry level or retrained ICT professional. In practice, students often continue to work at the company where they did their internship or graduation project. This saves recruitment costs, and reduces the initial training period. Your company also gets a close-up view of graduation projects, which will help you identify potentially interesting graduates.

Students learn the skills you need

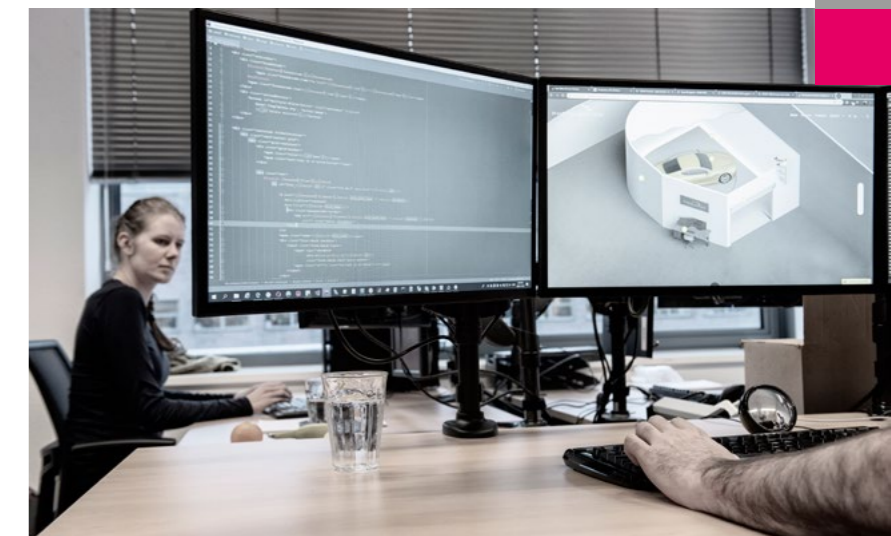
By bringing in practical assignments, giving guest lectures, and doing joint research, among other things, you can influence parts of the curriculum so it better suits your needs. This applies to content knowledge as well as desired soft skills such as collaboration, problem-solving skills, and techniques such as Agile and Scrum.

Temporary extra workers at your company

Another advantage is that students can participate in assignments or tasks that are neglected because of other higher priority activities. Depending on the level of the assignment and the student's abilities, you can let them work on a task and thus temporarily expand your project team.

More ICT professionals on the labor market

Finally, companies indicate that they want to contribute to the long-term success of the sector. You can also do this by teaching and educating potential ICT students. This gives young people a better idea of what a job in ICT entails and promotes the influx of specific target groups, such as women, career changers, or people with disadvantages on the labor market.



"We discover new talent by bringing them into our organization as interns."

B. You get access to innovation and research

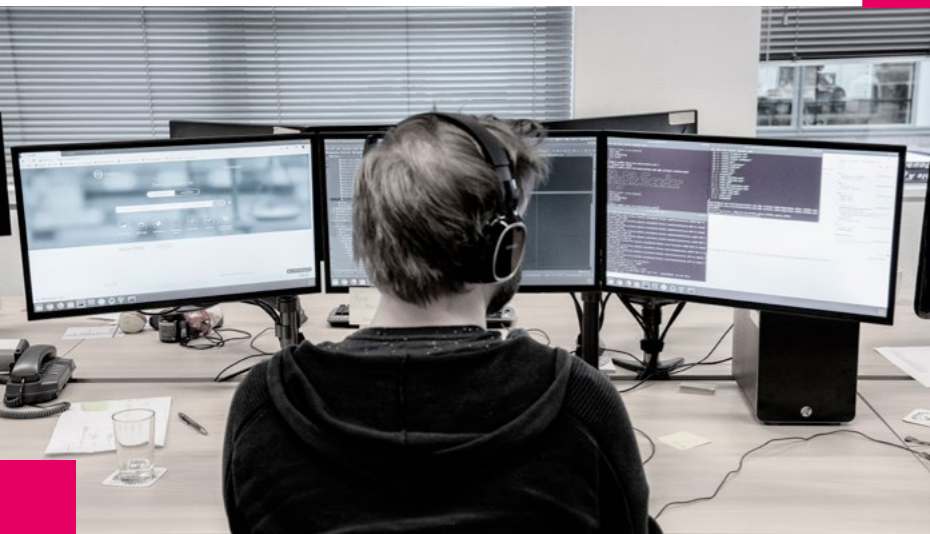
Innovation and research were also often cited as reasons to collaborate. What do they offer you?

Increased creativity and innovation

Students generally have more time and space to experiment and can therefore be put to good use on all kinds of innovative assignments, such as setting up prototypes or trying out different concepts. This stimulates a learning culture in your company: more innovation stimulates your employees to get creative with new solutions and technologies. Collaboration can also open your company's doors to research grants where you benefit from the results as a co-funder.

Access to new equipment

Many educational institutions have practical classrooms or even innovation labs with groundbreaking equipment that students can use. By collaborating with educational institutions, you ensure that the knowledge gained there is also available to you. You can also encourage your interns to carry out part of their assignment using this equipment, for example.



New insights for your transformation challenge

Are you unsure whether your company and your employees are future-proof? Collaborating with educational institutions bring innovation into your company and gives your current staff retraining opportunities. Both of these are vital steps in future-proofing your company in a rapidly-changing market

“We’re working toward a successful completion of a student’s internship, during which we have been able to teach them something, preferably with a useful result for our company. Of course, the best result is if a student wants to stick around after the graduation internship.”

“It works when we collaborate on projects in which the company, researchers, and students can all learn and innovate.”

C. You take your social responsibility seriously

ICT companies like to invest time and energy in projects with which they demonstrate their responsibility for society as a whole. This has several positive outcomes.

Better ICT skills in society

Companies say that they would like to take their social responsibility seriously when it comes to the impact that ICT has on society. They see it as the ICT sector's shared responsibility to teach everyone the digital skills they need to use the products and services that the sector develops. Of course, this also applies to your customers and business partners who must have the right skills to use your products and services. Education is the place where companies can let students work with their products; both within the ICT sector itself, and in other sectors (e.g., health care, automotive, or agrifood industries).

“Based on the philosophy of our headquarters in America, our teams have key performance indicators for the number of hours they have to put into ‘the local area.’”



Greater local involvement

Another form of corporate social responsibility is participating directly in the community, neighborhood, or city. For example, your employees could take students at risk of dropping out under their wing and helping them stay in school. Some companies think local involvement is so important that they even have their own policy and department for such efforts.

Specific target group knowledge

Businesses also indicate that because educational institutions are connected to government authorities, they are better informed about the developments and (grant) programs that apply to specific target groups. Think, for example, of people with disabilities or refugees. Access to this knowledge is important because this workforce can add great value to your company.

D. You increase your network and name recognition

Collaboration with the education sector increases your network and name recognition, which are important for your business. What are the advantages of that?

Greater name recognition

Fierce competition for talent makes name recognition among students a must. Students generally know how to find their way to the well-known, often large ICT companies, but somewhat smaller, regional companies need to do more to raise awareness. This can be done through collaboration with the education sector, so students get to know your company while they study.

Expanding your network of companies

In some regions, there are active public-private partnerships between companies and educational institutions (see the network map on www.wearekatapult.eu for an overview). By joining such a PPP, you also get to know other companies that may be of interest to you. One advantage companies cite is the opportunities these new connections offer to enter into partnerships, start projects together, or innovate further.

Chapter 3: Forms of collaboration and Best Practices

Collaboration comes in many degrees, ranging from light to very intensive. The form you choose depends on your own objectives, the opportunities for deploying your own people and resources, and the extent to which the educational institution is open to and offers opportunities for collaboration.

This chapter describes eight forms of collaboration and ranks them from little to a lot of use of your own resources. The chapter includes an explanation, your input, and the benefits of each type.

Then, 1 to 5 stars are used to indicate what your own input would be in time and money. The more stars, the higher the input. The expected results are also indicated in stars. Again, the more stars, the greater the expected results.

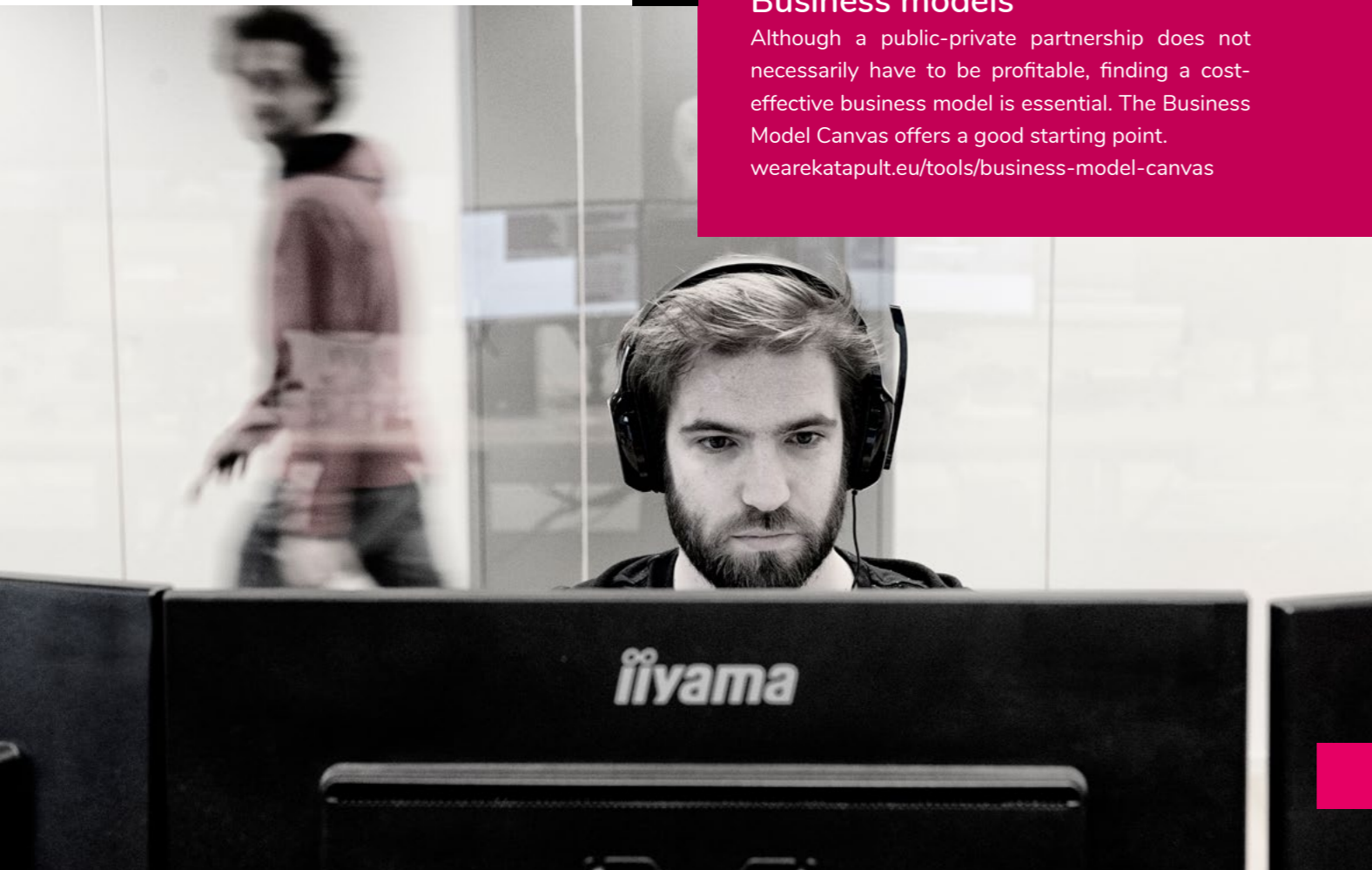
The reasons stated in Chapter 2 form the frame of reference for this.

Tip: the decision tree

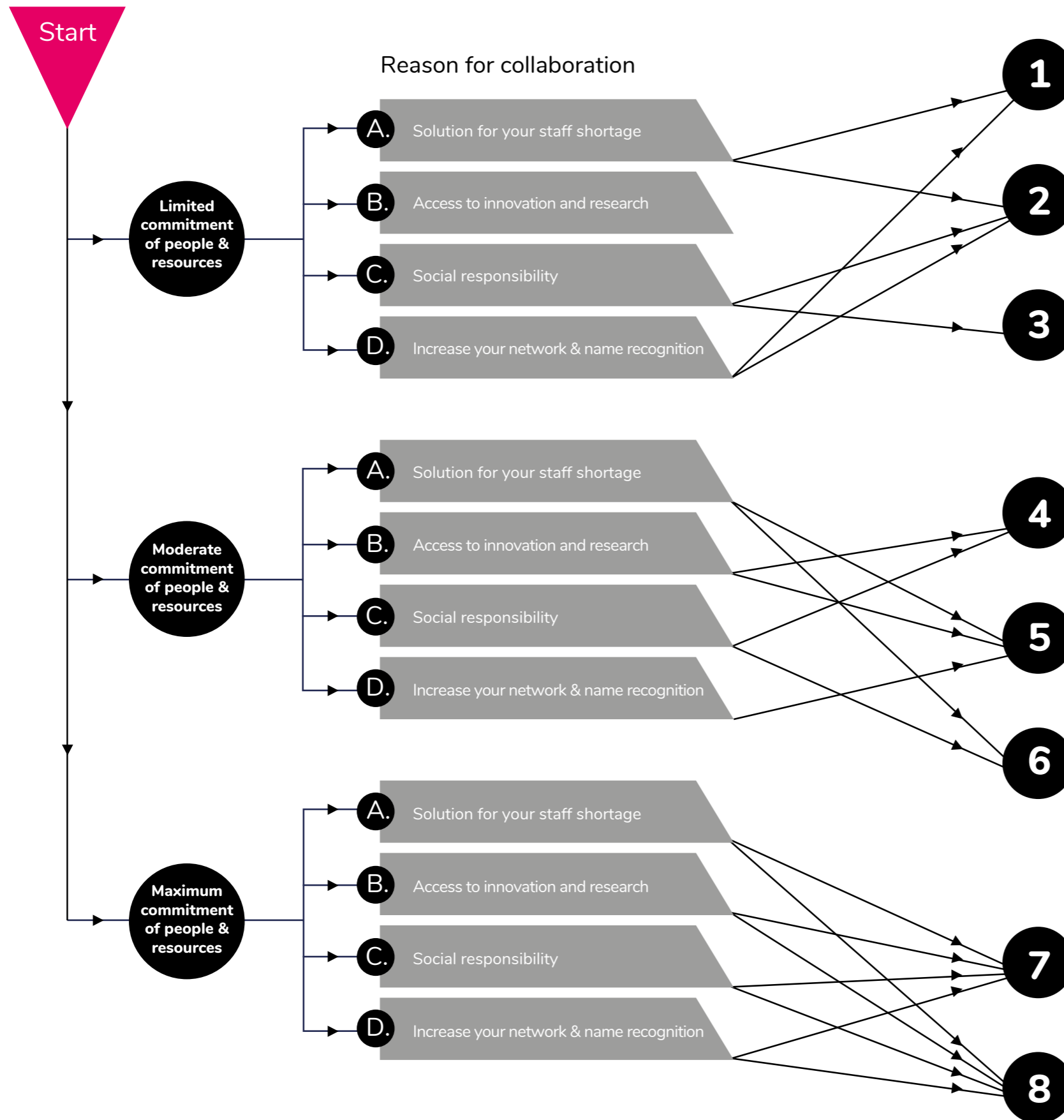
Use the decision tree on p10 and p11 to quickly determine which form of collaboration suits you best. In this decision tree, the degree of commitment of your own people and resources is the starting point. Then you choose the reason why you want to collaborate. These choices lead you to most appropriate form of collaboration.

Business models

Although a public-private partnership does not necessarily have to be profitable, finding a cost-effective business model is essential. The Business Model Canvas offers a good starting point. wearekatapult.eu/tools/business-model-canvas



The decision tree



Most appropriate form of collaboration

1 Familiarize students with your company

Draw students' attention to your company easily by posting vacancies on the ICT degree program intranets and by attending national or regional job markets. This creates name recognition and could result in new employees or business opportunities.

2 Inspire and enthuse (potential) students

Coach students, give guest lectures, hold workshops and hackathons, provide information, and show students around, to increase students' enthusiasm about the profession. This also has a positive effect on employees when they have an opportunity to talk about their own work.

3 Professionalize teachers

Inform and inspire teachers with projects and developments from practice. By keeping teachers up to date about what goes on in companies, you narrow the gap between theory and practice. Students coming onto the market will be better educated.

4 Let your employees work as part-time teachers

Inform and inspire teachers with projects and developments from practice. By keeping teachers up to date about what goes on in companies, you narrow the gap between theory and practice. Students coming onto the market will be better educated.

5 Offer practical and graduation projects or internships

You can have students work on issues that you can't get to yourself and which you want to gain insight into relatively quickly. This gives students a look behind the scenes and lets you see how they function in practice. This way, you get a good view of students who might later be of interest to your company.

6 Contribute to the retraining and further training of your (potential) employees

During the retraining or additional training period, you get an overview of students' development and can therefore relatively quickly assess whether they are eligible for a job. This also (further) prepares your existing employees for the future.

7 Contribute to improving teaching methods

You can participate in developing cooperative education programs using blended learning, setting up innovation labs, or deploying your own (software) programs and in-house teaching materials. This brings your employees into close contact with students and offers a lot of insight into talent.

8 Contribute to improving educational content

You can work on improving educational content through minors at professional education institutions (HBO) and optional modules at vocational education institutions (MBO). Employees contribute to good education, you see the results of the assignments, and frequent contact gives you opportunities to encourage students to come to work for you.

1 Familiarize students with your company

Explanation:

Draw students' attention to your company easily by posting vacancies on the ICT degree program intranets and by attending national or regional job markets. This creates name recognition and could result in new employees or business opportunities.

Commitment of people and resources:

These are minimal. Business fairs are often part of larger regional campaigns in cooperation with other companies, municipalities, and social institutions. As a result, you don't have to invest time in organizing the event itself; you only have to staff the stand. There are often costs associated with having a presence at a job fair.

Advantages:

You will quickly come into contact with students and, at business fairs, you will also come into contact with other ICT companies in the region. This can lead to name recognition, potential new employees, and interesting business opportunities.

Commitment of people and resources: ★

Outcomes:

- Staff shortage solution ★★
- Access to innovation and research ★
- Social responsibility ★
- Network and name recognition ★★★



Best Practice: Universities of Applied Sciences -ICT job market in Utrecht

www.hboictjobevent.nl

The Universities of Applied Sciences-ICT Job & Student Event is an annual job fair held at the Jaarbeurs Utrecht. The fair is for students (European Qualification Framework level 4-5) in their internship or graduation year and for students who are preparing for their internship. You can be an exhibitor, organize a content-related session, or staff a speed-date table with students or teachers.

In addition to delegating some employees to attend, participation costs a minimum of €4,500, depending on the size of the stand and when you register. With around 1,000 visitors, this is an effective and easy way to quickly reach many future ICT professionals.

Best Practice: BOJET communication campaign

www.baasoverjeeigentoekomst.nl

The Baas Over Je Eigen Toekomst (BOJET; Boss of Your Own Future) campaign is a collaboration between municipalities, employers, industry organizations, and trainers with the aim of better matching supply and demand on the labor market in the Drechtsteden region. The campaign is coordinated by the municipality and helps students, job seekers, and career changers choose the right degree program at VET school Da Vinci College.

As a company, you can post your vacancies or join the annual job fair attended by students, job seekers, and career changers. You can take advantage of easy access to potential employees and benefit from an existing structure that brings together education and the labor market.

2 Inspire and enthruse (potential) students

Explanation:

Coach students, give guest lectures, hold workshops and hackathons, provide information, and show students around, to increase students' enthusiasm about the profession. This also has a positive effect on employees when they have an opportunity to talk about their own work.

Commitment of people and resources:

This is limited. Giving a guest lecture, workshop, information, or guided tour often takes no more than a half day. Preparation takes time, of course, but this is limited because employees share knowledge about a theme they are working on every day.

Advantages:

Employees are often proud to be able to share their knowledge and convey their love for the profession. They radiate that, both outside and inside the company. That is especially true when your employees visit their own degree program or the visiting students are part of the same degree program as their tour leader. This type of activity improves your employees' soft skills, which they then use in their daily work.

Commitment of people and resources ★★

Outcomes:

- Staff shortage solution ★★
- Access to innovation and research ★
- Social responsibility ★★★
- Network and name recognition ★★★



Best Practice: Information for University of Applied Science students from Syntess Software

Every year, HZ University of Applied Sciences organizes a "company safari." On the special day, first-year students visit various companies in the region, including Syntess Software. It is an easy way for the company to show students that it focuses on a specific area of ICT: software development. The students attend a workshop and recently graduated staff members talk to groups of students.

The advantage is that students become aware of your company early in their studies, and you can show them what you stand for as a company, both in terms of activities and values (e.g., the value Syntess Software attaches to quality). The company has been working closely with the university of applied sciences for three years now (e.g., Syntess Software sponsored the HZ-Hackathon last year), and this time investment is paying off. They have noticed that the number of applications for graduation internships has increased in recent years, which gives them better access to the small pool of future ICT professionals.

Best Practice: Vakkanjers and Guest lessons, as arranged, from Jet-Net & TechNet

www.stemcoalition.eu/programmes/jet-net-tech-net-jntn

With the Vakkanjers (craft champions) program, students in preparatory secondary vocational education and vocational education discover their skills and work on important competencies like collaboration, presentation, and customer contact. You can participate in the role of mentor company and invest in young talent. For example, together with Vakkanjers you can organize company visits so students who have yet to make their choice of education can see with their own eyes how challenging the world of technology is.

Jet-Net & TechNet has also developed an online service that brings together supply and demand for guest lessons and company visits: Guest lessons, as arranged (see www.gastlessen-zogeregeld.nl). There you can easily sign up and arrange a guest lesson at a school or at your company.

3 Professionalize teachers

Explanation:

Inform and inspire teachers with projects and developments from practice. By keeping teachers up to date about what goes on in companies, you narrow the gap between theory and practice. Students coming onto the market will be better educated.

Commitment of people and resources:

This requires a limited effort. You can make your knowledge available at set times or on demand. You can also combine this with other types of collaboration, such as a graduation project.

Advantages:

Teachers will be better informed about what goes on in companies, and you narrow the gap between theory and practice. Then, better educated students will come onto the market. You also show that you want to work hard for modern education.

Commitment of people and resources ★★

Outcomes:

- Staff shortage solution ★
- Access to innovation and research ★★
- Social responsibility ★★★★★
- Network and name recognition ★★



Best Practice: IBM shares knowledge about required skills

In cooperation with companies such as Tata Steel and VodafoneZiggo, IBM conducts one-on-one conversations with vocational education and professional education institutions about questions like: What skill profile current and future markets require? What are you teaching now? What could be improved, and how can we contribute without taking the teacher's place?

IBM ties this in with a stronger focus on self-reliance in education. They contribute to this education enrichment both out of a sense of social responsibility and to be able to achieve the short-term objective of hiring people with the right profile (i.e., ICT skills and desirable soft skills like collaboration).

Best Practice: Brainstorming about the future of the profession with Digital Rebels by BVI

4Digital Rebels supervised a Master's degree assignment for a client's student. The student had worked part-time for the client for two years in addition to working on a Master's degree in Business Analytics. The assignment was to investigate the possibilities of applying AI in the client's business operations.

In addition to this content-related guidance, the Master's supervisor and professor brainstormed about the subject area and how the company sees it developing. Both the company and the educational institution found it interesting to look at the shared passion – business analytics – from different perspectives.

4 Let your employees work as parttime teachers

Explanation:

Inform and inspire teachers with projects and developments from practice. By keeping teachers up to date about what goes on in companies, you narrow the gap between theory and practice. Students coming onto the market will be better educated.

An parttime teacher (also known as hybrid teachers in the Netherlands) works part-time for your company and as a teacher the rest of the time. An employee who also works as a parttime teacher could also be referred to as an employee with a 'circular career.' For more information, visit the Expertise Centre for adjunct instruction: www.hybridedocent.nl (in Dutch).

Commitment of people and resources:

You can see this as an alternative interpretation of your employee's employment contract. It doesn't cost you much effort, although such employees are less usable for your company. Often you see that people who are parttime teachers have a past at the educational institution, remain partly connected to it, and come to work part-time at a company.

Advantages:

Employees cite meaningfulness as the most important argument for such an arrangement. You see your employees grow in both hard and soft skills. This increases their knowledge and improves collaboration with colleagues and clients. Educational institutions see this approach as an enrichment of their lessons and a solution for the teacher shortage.

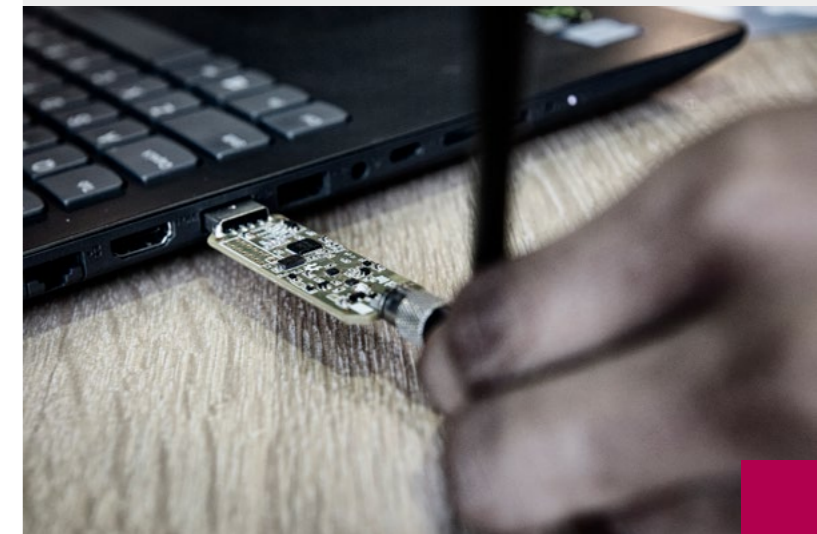
Commitment of people and resources ★★★

Outcomes:

- Staff shortage solution ★
- Access to innovation and research ★★★★★
- Social responsibility ★★★★★
- Network and name recognition ★★

Best Practice: Director at Centric and lecturer in one

Professor Ben van Lier is Centric's Director of Strategy & Innovation, where he focuses on researching and analyzing developments at the interface between organizations and technology. He is also a professor at Steinbeis University in Berlin and lecturer at Rotterdam University of Applied Sciences, a role in which he conducts research on topics like the internet of things. Van Lier is employed by Centric and works part-time at the educational institutions. This way, he gathers and develops knowledge that he can directly apply at his own company to benefit colleagues and customers.



Best Practice: External expert for graduates

Rotterdam University of Applied Sciences has a pool of professionals who act as external experts for their graduates. These experts have no role during the graduation process but receive the student's report a few weeks before the graduation date. They assess this report from their own practice, are present at the graduation itself, and influence the grade. This process gives them insight into newly developed knowledge with a limited time commitment. The students and educational institution also benefit from testing the research against daily practice.

5 Offer practical assignments, internships, and graduation projects

Top pick: by far the most mentioned by ICT companies

Explanation:

You can have students work on issues that you can't get to yourself and which you want to gain insight into relatively quickly. This gives students a look behind the scenes and lets you see how they function in practice. This way, you get a good view of students who might later be of interest to your company.

Through internships and graduation projects, students work on concrete practical assignments, often with a research component, and get a glimpse of your company. As an educational institution's partner, you can also develop practical assignments and thus inspire students and instructors to work with the teaching material in a practical way.

Commitment of people and resources:

This is a large commitment. Students are often unable to start an assignment independently because they do not have the skills to do so yet. It is also important that you invest time in building a bond with the educational institution. The better you know what knowledge and skills the students bring with them, the greater the chance that the assignment will be successfully completed.

Advantages:

You can have students work on issues that you can't get to yourself and that you want to gain insight about relatively quickly. You see students functioning in practice and get an overview of students who you might want to hire.

Commitment of people and resources ★★★

Outcomes:

- Staff shortage solution ★★★★★
- Access to innovation and research ★★★★★
- Social responsibility ★★
- Network and name recognition ★★★★★

Best Practice: Internship and graduation projects at SIG.eu

The R&D department at SIG.eu knows what knowledge the company still needs. The next step is to determine whether this knowledge development will occur internally or whether students will be doing it. From this inventory they develop a portfolio of various internship and graduation projects, and even PhD positions.

SIG.eu invests a lot of time in building and maintaining links with the specific ICT departments at universities of applied sciences and research universities. They do so by, for example, sitting on professional committees so they know when students will become available and what specific knowledge and expertise they bring with them. The assignments are then tailored to fit the student profile, which increases the success of the assignment.

Best Practice: Practical assignment from KPN for micro-jobs at ROC Amsterdam

KPN saw an opportunity to come up with a generic solution for maintaining sensors in the public space. So, as a member of House of Digital Amsterdam, they contacted ROC Amsterdam and asked: would it be possible to set this up as a micro-job? It was and a number of students researched opportunities and the market for maintaining the internet of things. KPN answered students' questions and involved VolkerWessels and USGPeople for extra support in this assignment. By answering this pre-research question in the early stages of a business case, KPN quickly got a feel for the opportunities of a potential product.

6 Contribute to the retraining and further training of your (potential) employees

Explanation:

During the retraining or additional training period, you get an overview of students' development and can therefore relatively quickly assess whether they are eligible for a job. This also (further) prepares your existing employees for the future.

You can play a supporting role in retraining or further training your current and new workforce, ensuring that candidates have enough knowledge for a successful ICT career or ensuring that your own employees are fully up-to-date again.

Commitment of people and resources:

It mainly takes effort in terms of content. Students that receive retraining have work experience, but lack certain basic ICT knowledge that they did not acquire during their studies. So, prepare yourself to help them fill in this missing content-related knowledge. In some public private partnerships, companies pay a part of the retraining costs.

Advantages:

You help to increase the population of IT professionals who come onto the market with the right skills. More specifically, during the retraining or additional training period, you get an overview of students' development and can therefore relatively quickly assess whether they are eligible for a job. Additional training also prepares your existing employees for the future.

Commitment of people and resources ★★★

Outcomes:

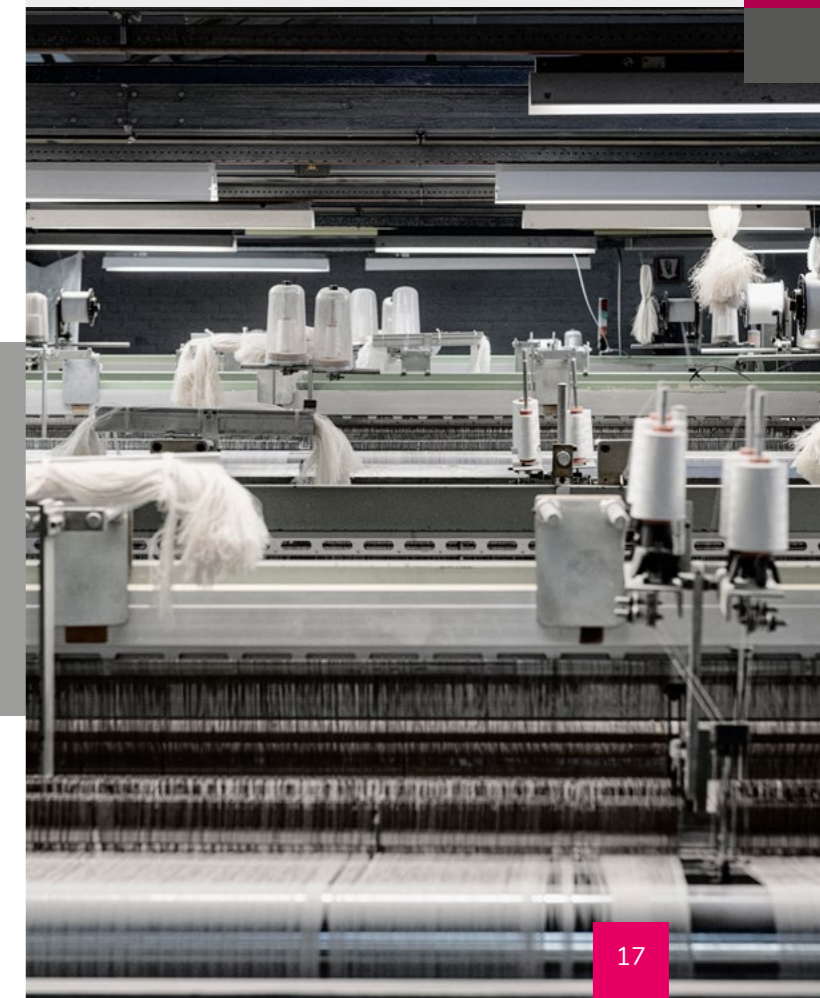
- Staff shortage solution ★★★★★
- Access to innovation and research ★★★
- Social responsibility ★★★★★
- Network and name recognition ★★★

Best Practice: Retraining through Make IT Work at Amsterdam University of Applied Sciences

www.it-omscholing.nl

(initiative is also being launched at other locations in the Netherlands) 105 companies and government institutions (e.g., Dictu, the Chamber of Commerce, the Dutch Employee Insurance Agency, CAP, Incentro, conclusion and Mybit) are working with Amsterdam University of Applied Sciences to retrain degree holders for a job in ICT. The university of applied sciences takes care of the selection and preparation, after which the company offers the student an employment contract for the duration of the program. The trainees follow an intensive full-time five-month training course followed by six months working at the company and six follow-up sessions at the University of Applied Sciences to deepen their content-related knowledge.

The companies pay the €6,000 retraining costs and during that period they get a good picture of the potential employee. If the company likes the candidate they can remain in service, possibly combined with completing a minor at the university of applied sciences.





Best Practice: Acer's in-house training for people with disadvantages on the labor market

In 2018, Acer in Den Bosch started an initiative in collaboration with various ICT companies and the municipality to offer an opportunity to people who cannot find work on their own. This collaboration is special because it is specifically focused on the role of 'repair engineer' and there is no degree program for this profession. In addition, developments in the repair industry are moving so fast that it is difficult for the education sector to keep up with them.

Weener XL (the municipality's work development company) tests potential employees for suitability, interest, and motivation for a job as a repair engineer. If they exhibit the necessary drive and have the capacities to learn the trade, the candidate begins a learning process. In addition, Koning Willem 1 College (an ROC in Den Bosch) offers support on a personal level. The content-related training is provided by Acer's own technicians, ensuring the knowledge is directly applicable to the business world. As a result of this collaboration, more than 20 people who used to receive welfare, unemployment, or assistance benefits for handicapped young people have found paid jobs in Den Bosch.

Acer's original motivation was corporate social responsibility by training people in the company's immediate vicinity. That has shifted to an alternative way of solving staff shortages.

7 Contribute to innovation of teaching methods

Explanation:

You can participate in developing cooperative education programs using blended learning, setting up innovation labs, or deploying your own (software) programs and in-house teaching materials. This brings your employees into close contact with students and offers a lot of insight into talent.

You can contribute to innovating education by participating in cooperative education programs or blended learning (in which two or more learning methods merge imperceptibly, often a mix of digital and non-digital education), deploying your own (software) programs and in-house teaching materials, and setting up innovation labs.

Commitment of people and resources:

This depends on your choice. Merely contributing your own in-house teaching materials takes little effort. In contrast, starting an innovation lab or cooperative education program with an educational institution requires significantly more effort.

Advantages:

This method of collaboration brings you into intensive contact with students and offers great insight into potential talent. In addition, you can contribute a lot of your own knowledge and products, which is of great benefit to society as a whole.

Commitment of people and resources ★★★★★

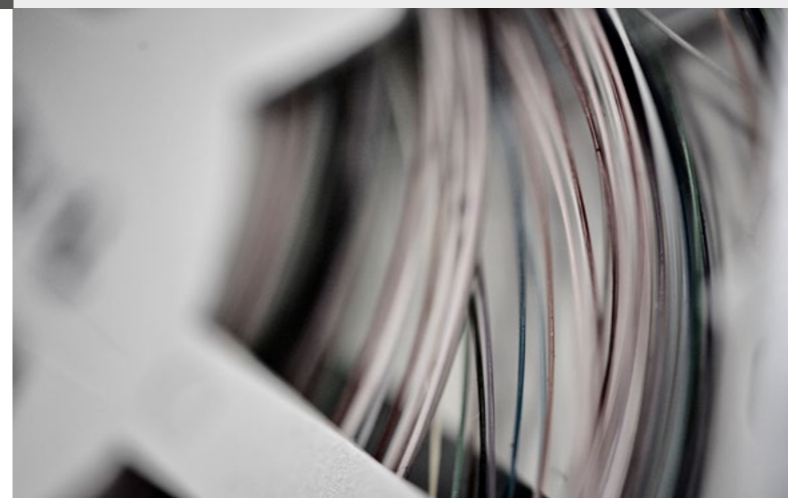
Outcomes:

- Staff shortage solution ★★★★★
- Access to innovation and research ★★★★★
- Social responsibility ★★★★★
- Network and name recognition ★★★★★

Best Practice: Cooperative professional education degree program in ICT System Network & Cloud Engineering at Utrecht University of Applied Sciences

www.jobinthecloud.nl

The four-year professional education degree program in System Network & Cloud Engineering at Utrecht University of Applied Sciences is a cooperative education program that was developed together with the Cloud IT Academy foundation. The foundation has a board that includes the companies Intermix and Bizway and monitors the content of the degree program. At the start of the program, the foundation screens each student and immediately offers them an employment contract (with salary) at one of the affiliated companies for the duration of the degree program. The employee does billable work for 3 to 4 days a week and attends school the other 1 to 2 days a week.



There are several advantages to participating in the Cloud IT Academy. Thanks to the collaboration, the content of the degree program is well matched to the demand for cloud specialists. In addition, the companies that provide information to recruit fourth-year students from the vocational education institution (MBO) have become trusted partners of that institution. After all, the students are immediately a full-fledged part of the company, are doing paid work, and often stay with the company after the degree program.

Best Practice: Workshop for Digital Craftsmanship at ROC Noorderpoort

www.kasteelgro.nl

In the workshop, three different labs are working on:

1. training vocational education students through the vocational research group/Knowledge Lab,
2. personalized learning and life-long development through the Learning Lab, and
3. stimulating entrepreneurship among VET students in the Business Lab.

VET school Noorderpoort does this together with companies, government bodies, and educational institutions in the city and region. Companies are given the opportunity to use the space and facilities and can submit practical cases. In this way, they benefit from the knowledge available, they can expand their network with students and other companies, and they are given the opportunity to think along with them about the content of the degree programs.

8 Contribute to innovating educational content

Explanation:

You can work on innovating educational content by delivering optional modules at vocational education institutions or developing and overseeing minors at professional education institutions.

Commitment of people and resources:

This collaboration method is intensive. It takes time to prepare the lessons together with the educational institution and you also have to consider the time invested during the implementation of the course.

Advantages:

Employees contribute to good education, you see the results of the assignments, and through frequent contact you get opportunities to encourage students to come to work for you.

Commitment of people and resources ★★★★★

Outcomes:

- Staff shortage solution ★★★★★
- Access to innovation and research ★★★★★
- Social responsibility ★★★★★
- Network and name recognition ★★★★★

Best Practice: InfoSupport's .net minor at Utrecht University of Applied Sciences and Java minor at Avans University of Applied Sciences

InfoSupport developed a .net minor and a Java minor together with two universities of applied sciences, which helps them provide high-quality education that aligns with practice. The examination boards at the universities of applied sciences remain responsible for the quality of the minors and the programs are audited every year to ensure they still meet the applicable quality requirements.

InfoSupport thus gives substance to its own continuous learning culture. By bringing in new knowledge, InfoSupport connects the students with relevant examples from practice and the company gets an immediate view of the best students. Employees also improve their own soft skills.

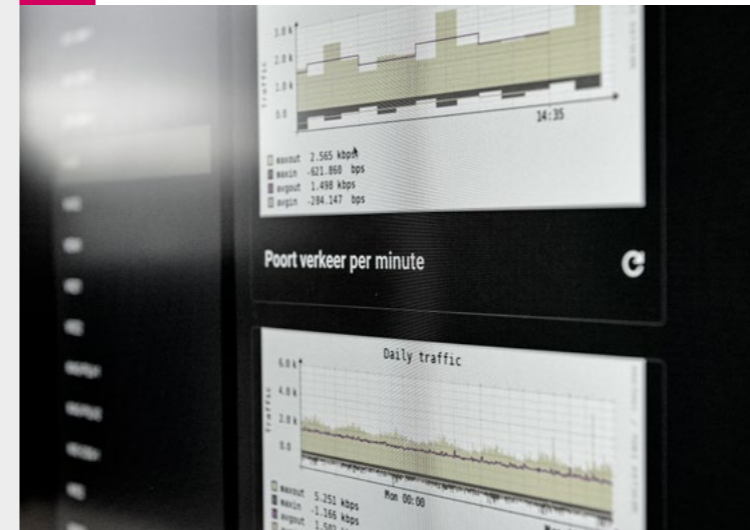
Best Practice: 'Orientation on Entrepreneurship' optional module at ICT College Nieuwegein with the cooperation of Data Comfort

Students in the level 3 ICT Management vocational education degree program can follow the optional module 'Orientation on Entrepreneurship' to learn whether entrepreneurship is right for them. During the module, the students make a prototype of a product that is an extension of the degree program. This assignment has led to several creative results: a private Spotify channel, a game server, and their own Dropbox server.

The teacher involves Data Comfort in the project and they give their opinion about the products created. As a reward, the best product can run on one of Data Comfort's systems for two months and is therefore temporarily available on the internet.

Chapter 4: Valuable tips for collaboration

The willingness of the education sector to collaborate with companies is still growing rapidly. However, collaboration can sometimes be difficult in practice. Here is an overview of tips from fellow companies that have already gained experience.



Tip 1: Appreciate and respect the efforts of educational institutions

Understand that the goal of educational institutions is to "teach students how to learn"

A diploma alone is no guarantee of success in work later. That is why the education sector is now shifting from training for a certificate toward student self-reliance. The purpose of education has broadened: it no longer only provides a professional qualification, but also the necessary love of the profession and cognitive skills students need to make a difference. As a result, the education system is already moving toward better development of soft skills (e.g., Agile, Scrum).

Work together with the goal of preparing students for the future

From a business point of view, you cannot assume that an educational institution only delivers students who immediately function perfectly in your company because they have precisely the right skills to work with, for example, a certain software package. The starting point of collaboration should therefore be making students self-reliant in society and thus preparing them for the future together. This attitude eliminates any skepticism about collaboration.

Tip 2: Reserve time and money for collaboration

Collaboration costs time and money...

Whatever form you choose, collaboration costs time and therefore money. Whether you or your employees are part of a steering committee, supervise interns, or occasionally provide information, these activities always come at the expense of productivity. Companies experience a big difference in speed between themselves and educational institutions. It takes time to recognize and acknowledge this difference and build mutual trust.

...but so does recruitment

However, you have to look at this from the perspective of recruitment costs. Many students have an easier time finding large corporations than smaller, relatively unknown SMEs. Make an inventory of your recruitment costs as well as the efforts that employees want to make, and then see what type of collaboration is desirable and possible. Don't forget that access to innovations and tools is much easier if you collaborate with educational institutions.



Tip 3: Want to have more impact? Then commit for a longer time

Don't expect immediate changes to the curriculum

A curriculum goes through a legal accreditation process, so its foundations are fixed. Announcing today that things will have to change tomorrow doesn't work. It's unrealistic to ask for immediate changes or adjustments to the curriculum. It is better to have a long-term vision of education than to invest in the joint development of programs and thus change small pieces of education. But such a vision is only possible if you have the willingness to invest on a long-term basis.

Commit to a full-time degree program to have the greatest impact

If recruitment is an important reason for collaboration, then in practice it is wise to commit yourself to a full-time degree program. It takes time to get and keep students' attention, especially in a tight labor market. In addition, many students continue to work at the company where they do their graduation project and they often come into contact with those companies early in their studies. This means that, in addition to graduation projects, it is also wise to offer internships and assignments in earlier years.

Give yourself and each other a trial period

Before you enter into a very intensive, multi-year collaboration, it is advisable to agree on a trial period. Keep talking to each other, even if the collaboration does not go according to plan, and adjust the strategy where necessary. And if it doesn't work, it doesn't work.

Tip 4: Express expectations to each other

Make smart agreements about collaboration and commitment

Simple as it may seem, the success of the collaboration depends on good agreements. Think about the staffing commitment on both sides, about communication and continuity in collaboration. Expect each side to take an active role, ensure regular contact, and evaluate the collaboration. Also discuss whether the educational institution is open to one-on-one collaboration, or whether it expects several companies to develop a joint collaboration proposal.

The educational institution is in charge, regardless of how intensive the collaboration is

The more intensive the collaboration, the more important it is to have clear roles, tasks, and responsibilities. The most important fundamental understanding is that directing the whole process lies and remains with the educational institution. The educational institution takes the lead and companies support; companies are the client and teachers do the work. Companies are in charge of deepening content-related knowledge; the degree program is in charge of the didactic component.

Make agreements about the weight of the assignment

Most companies like to see the collaboration focused on content. But make sure you don't overburden the students, especially at the beginning of the program. Give them assignments that you had too little time to complete yourself, that are not mission critical, and that are not super-secret. Another important area of attention when formulating assignments is the difference in judgement that can exist about the weight of a project; demands from the business community are sometimes higher than those from the educational institution. Watch out for this!

Students no longer automatically participate in commercial assignments

Be aware that professional education institutions are paying more and more attention to research and are less focused on production. This may affect the amount of time an intern or graduation project student can and is allowed to spend contributing to commercial projects at the company during their internship or graduation period. Make agreements about this.

Tip 5: Customize, customize, customize!

Keep in mind that every educational institution is different

Educational institutions differ greatly from each other, ICT faculties are organized differently, and teachers are also very different in their collaboration with the business community. Not all schools work at the same speed, and innovation from education is not always self-evident. This differentiation is not always made clear, which means that a standard agreement between educational institutions and companies is impossible. Customization is always necessary!

Invest in personal contacts with teachers

Collaboration often comes about through personal contacts (e.g., when the teachers with whom you collaborate have been employed by the company). And the longer the contacts exist, the better and more streamlined the collaboration becomes. You have a better idea of what to expect from the teacher and the students, which prevents disappointment. This is also important because collaboration from the education sector is still (too) often organized outside regular hours. Also note that teachers are not focused on the long term at the beginning and end of the school year!

Is an ICT student right for you? Or perhaps another student with an affinity for ICT?

Nowadays, the added value of ICT companies lies not only in the technology, but also in moving from the problem to a technical solution. That means that it can also be interesting to collaborate with entirely different departments and students. For instance, think of business students who have an affinity for technology. Many students are perfectly capable of further training in technical skills and by broadening your reach you add extra knowledge (and therefore value) to your project team.

Finally: always celebrate your successes!

No matter how big or small a success, think about it and celebrate it. This gives energy to the entire team involved and a good opportunity to continue or intensify the collaboration.



Appendix: VET schools and Universities of Applied Sciences per technology pact region where ICT education is provided

ICT education in the Netherlands is provided at the vocational education (MBO) and professional education (HBO) institutions listed below. See which technology pact region is relevant for you, find the right institution, and contact the director of the ICT degree program. Are you having problems? Then contact us at info@hcaict.nl or check www.dutchdigitaldelta.nl, or hello@wearekatapult.eu or check www.wearekatapult.eu.

Northwest Region (North Holland, Utrecht, Flevoland)

Vocational Education (MBO)

- ROC Flevoland
- Hoornbeeck College
- ROC Horizon College
- ROC Nova College
- Regio College
- ROC Kop v Noord-Holland
- MBO Utrecht
- ROC Midden Nederland
- ROC van Amsterdam
- ROC Onderwijsgroep A12
- Grafisch Lyceum Utrecht
- Mediacollege Amsterdam

Professional Education (HBO)

- Amsterdam University of Applied Sciences
- Inholland University of Applied Sciences
- Utrecht University of Applied Sciences

North Region (Friesland, Groningen, Drenthe)

Vocational Education (MBO)

- ROC Drenthe College
- ROC Friesland College
- Noorderpoort
- ROC Alfa College
- ROC Friese Poort

Professional Education (HBO)

- Hanze University of Applied Sciences
- NHL Stenden

East Region (Overijssel, Gelderland)

Vocational Education (MBO)

- ROC van Twente
- Rijn IJssel
- Landstede
- ROC Deltion College
- ROC Onderwijsgroep A12 / Technova
- ROC Nijmegen
- Aventus
- ROC Graafschap College
- Hoornbeeck College

Professional Education (HBO)

- Windesheim University of Applied Sciences
- Saxion University of Applied Sciences
- Christian University of Applied Sciences Ede
- HAN University of Applied Sciences

Southeast Region (East Brabant, Limburg)

Vocational Education (MBO)

- VISTA College (merger of ROC Arcus College and ROC Leeuwenborgh)
- ROC Gilde Opleidingen
- ROC de Leijgraaf
- Summa College
- ROC Ter AA
- King William I College
- ROC Tilburg

Professional Education (HBO)

- Avans University of Applied Sciences
- Fontys University of Applied Sciences
- Zuyd University of Applied Sciences

Southwest Region (South Holland, West Brabant, Zeeland)

Vocational Education (MBO)

- ROC West-Brabant
- MBO Rijnland
- Techniek College Rotterdam (Zadkine / Albeda college)
- ROC Mondriaan
- ROC Da Vinci College
- ROC Rivor
- Hoornbeeck College
- Scalda
- Grafisch Lyceum Rotterdam

Professional Education (HBO)

- The Hague University of Applied Sciences
- University of Applied Sciences Leiden
- Rotterdam University of Applied Sciences
- Breda University of Applied Sciences
- HZ University of Applied Sciences

Colophon

About this handbook:

This handbook was compiled based on desk research, interviews with ICT companies, meetings and brainstorming with project leaders of public-private partnerships, and a survey among members of NLdigital.

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