

Methodology of Technology Transfer Process Support

Faculty of Civil Engineering, Czech Technical University in Prague

The Methodology serves to identify individual steps and responsibilities in technology transfer (hereinafter also “TT”), in line with central CTU Rector’s Office directives and other internal regulations. The Methodology breaks down the technology transfer process into individual steps following each other.

Steps in technology transfer process:

1. Identification of R&D Achievement Potential
2. Evaluation of Achievement Potential
3. Notice of R&D Achievement (Department of Project Management and Technology Transfer -DPMTT)
4. Decision on exercise of rights to Achievement by CTU Rector
5. Internal Agreement conclusion
6. Intellectual Property protection
7. TT Project commercialization
8. Supervision over (licence) agreements
9. Remuneration of individual parties according to Internal Agreement

The following roles participate in technology transfer process:

- Originator/Author (FCE employee)
- Technology Scout (David Pešek)
- Technology Transfer Administrator (hereinafter “TT Administrator”) (Alena Honsů)
- Intellectual Property Specialist (hereinafter “IP specialist”) (Lenka Bobková)
- FCE Lawyer (Lucie Czivišová)
- Economist (Renata Vlčková)
- FCE Dean (Jiří Máca)
- FCE Secretary (Miroslav Vlasák)
- Vice-Dean for R&D (Bořek Patzák)
- Commercialization Committee (collective body for decision making on TT issues, comprising Vice-Dean for R&D and FCE Secretary)

The Methodology also includes the following model documents as annexes:

- Annex No. 1 – Licence Agreement model for contract research purposes
- Annex No. 2 – Internal Agreement model
- Annex No. 3 – Joint Ownership Agreement model
- Annex No. 4 – Licence Agreement model

- Annex No. 5 – NDA model
- Annex No. 6 – Internal Records System model (.xlsx)

1. Identification of R&D Achievement potential

Two situations may arise in the initial phase of the technology transfer process. The scientist either addresses the Faculty (hereinafter also “FCE”) with a request or FCE actively searches technologies or know-how with a commercialization potential. The active search scope results from the FCE internal capacity.

1.a Active searching of technologies or know-how for commercialization

Active searching involves continuous monitoring of FCE R&D achievements and finding technologies or know-how with a potential for commercial application. These activities are pursued by the Technology Scout. The Technology Scout passes the found technology or know-how (hereinafter also “TT Project”) to the TT Administrator, who enters it in internal records (Internal System e.g. in the form of an Excel table) as a TT Project. Part of filing in the internal records system is assigning a record a reference number, which is further used for the TT Project in all subsequent steps. The TT Administrator oversees the TT process and individual steps in the internal phase (steps 1-6), while the Technology Scout is responsible for commercialization and subsequent registration (steps 7-9) and submits the TT Administrator background materials for the R&D Achievement Potential Identification (step 1). The Internal System is shared by all participating parties; the Originator only has access to their file.

The basic characteristic of a TT Project must include the following information:

- name of Achievement;
- list of all Originators/Authors and their status in relation to FCE (FCE employee, another CTU part employee, external originator/subject);
- source of Achievement financing;

1.b Scientist addresses FCE with a request for commercialization of their Achievement

The second option is that the researcher him/herself as the originator of an achievement/technology addresses FCE with a request for the commercialization of their R&D Achievement. The above situations will be assessed individually as individual TT Projects will be found in different phases of the process. They will always be registered by the TT Administrator as a TT Project and entered with a reference number in the Internal System. If a TT Project is in an advanced phase (e.g. already before signing a licence agreement), the TT Administrator adds all the necessary preceding steps, unless they were processed before (particularly Notice of R&D Achievement, Decision on Exercise of Rights and Internal Agreement). Without these steps, the licence agreement cannot be signed.

1.c Licence resulting from contract research

The researcher or the Department carrying out contract research based on an agreement, is obliged to complement this agreement with a Licence Agreement model, including the licence non-exclusivity and other rights related to the use of FCE Intellectual Property (see Annex No. 1 to this Methodology). If this agreement is not accepted by the Department or the Second Party, the final agreement wording is approved by the Commercialization Committee. A variance from the Licence Agreement model (e.g. licence exclusivity) should be reflected in the contract research price (by e.g. a higher hourly rate).

2. Evaluation of potential and TT Project recommendation for further commercialization

2.a Evaluation of potential

Each TT Project is evaluated. The scope of evaluation results from FCE internal capacities. The goal of this step is to assess the economic (or social) potential of the TT Project. The evaluation consists of several parts:

- Technical potential evaluation

The technical potential evaluation involves the assessment of the Achievement essence and its comparison with the state-of-the-art knowledge/technology. The technical potential evaluation is submitted by the Achievement Originator/Author at the IP Administrator's call. The Technology Scout is ready to assist the Originators/Authors with the supply of necessary information. The technical potential evaluation must include at least the following information:

- sphere of technology to which the TT Project is related;
- explanation of the Achievement essence;
- technology readiness level (hereinafter "TRL");
- area/sector proposed for the Achievement commercialization.

- Achievement novelty evaluation

This part of the evaluation involves the assessment of possibilities of industrial and legal protection of the Achievement (e.g. by a patent) and is elaborated in cases where this protection is relevant. The Achievement novelty evaluation is processed by the Achievement Originator/Author at the IP Administrator's call. The IP Specialist is ready to assist the Originators/Authors with the supply of necessary information. The Achievement novelty evaluation must include at least the following information:

- general novelty specification (how the TT project differs from existing solutions);
- indicative state-of-the-art literature search;

- possible protection proposal.
- Market potential evaluation

This part of the evaluation aims at the assessment of the TT Project's future market success. The market potential evaluation is elaborated by the Achievement Originator/Author at the IP Administrator's call, who can use the Technology Scout's services. The market potential evaluation includes at least the following information:

- specification of Achievement use (use case);
- its competitive advantage as compared to existing solutions (including substitutes);
- list of potential bodies interested in the Achievement (it is advisable to consult the Achievement competitiveness with potential bodies interested in it; in this phase, this is done by the Technology Scout on request).

2.b Achievement recommendation for further commercialization ("TT Project Potential Evaluation" report)

Based on information from the TT Project evaluation, the "TT Project Potential Evaluation" report is written, which is entered in the **Electronic Records System**. The evaluation of the potential is taken into account by the Technology Scout during the subsequent TT Project commercialization, mainly in terms of defining priorities. Based on all information, the recommendation for further commercialization is formulated. This recommendation is elaborated by the Technology Scout at the IP Administrator's call. In more complicated cases, the Technology Scout may consult the recommendation with the Commercialization Committee.

3. Notice of R&D Achievement (DPMTT)

After the completion of the evaluation and elaboration of the "TT Project Potential Evaluation" report, a Notice of R&D Achievement must be delivered to the CTU Rector's Office (DPMTT) observing existing internal regulations. The information from the previous evaluation can be used in the notice. The TT Administrator communicates with DPMTT in this matter in collaboration with the Originators/Authors. Pursuant to existing regulations, DPMTT must be notified of all achievements filed in the FCE **Internal Records System** (see Directive **XXXX**).

4. Rector's Office decision on exercise of CTU rights to Achievement

After sending off the Notice of R&D Achievement, the decision making process on the exercise of rights to the Achievement is performed by the Rector's Office without the FCE participation. The decision making process is monitored by the TT Administrator. The result in this step is a decision on the exercise or non-exercise of CTU rights to the Achievement. The

document signed by the Rector is registered by the TT Administrator and filed in the **Internal Records System**. In the case that the TT Administrator does not receive a notice of the Decision on the Exercise of Rights within 3 months from the date of submitting the Notice of R&D Achievement, the property rights automatically pass on to the Originator/Author. This deadline is rigorously monitored by the R&D Administrator.

5. Internal Agreement conclusion

If it has been evaluated that the TT Project has a potential, it was accepted by CTU to be administered (positive Decision on the Exercise of Property Rights) and there is interest in its commercialization, the Internal Agreement must be prepared. The Internal Agreement preparation is initiated by the Technology Scout, who is the first to use the Internal Agreement model (see **Annex No. 2** to this Methodology) and communicates with all participating parties. The Administrator prepares the first draft of the Internal Agreement. In the process of drafting the Internal Agreement, the Technology Scout (particularly regarding the commercialization plan) and the Economist (regarding future distribution of net yields) are ready to help on the Administrator's request. In the case that the TT Project is managed by the CTU Rector's Office, it is the CTU Rector's Office who drafts the Internal Agreement.

The Internal Agreement aims to regulate the rights and duties between the Originators/Authors, Faculty, Department (and the Rector's Office if it participates in the commercialization), particularly as regards the distribution of costs and yields. The Internal Agreement includes at least the following information:

- participating parties;
- Internal Agreement subject (TT Project including the registration number from the Internal Records System);
- percentage distribution of net yields among participating parties (respecting internal regulations currently in force);
- incurred commercialization costs and parties that incurred the costs;
- commercialization plan including indicative deadlines.

The signed Internal Agreement is passed by the TT Administrator to all participating parties and filed in the Internal Records System with the TT Project number.

6. Intellectual Property protection

For some TT Projects, the protection of intellectual property is desirable. The intellectual property protection is already predicted in the TT Project evaluation, in the Achievement novelty evaluation part. At FCE, the intellectual property protection is coordinated by the IP Specialist.

6.a Joint Ownership Agreement (if relevant)

In the case that an external originator was identified in entering a TT Project in the Internal Records System, and in the case that the Achievement is protected, the Joint Ownership Agreement must be drafted. The need to draft a Joint Ownership Agreement is monitored by the TT Administrator, who initiates the first iteration of the agreement draft, based on the agreement model (see Annex No. 3 to this Methodology). Joint Ownership Agreements are prepared by the FCE lawyer with the TT Administrator's assistance. The signed Joint Ownership Agreement is passed by the TT Administrator to all participating parties and filed in the Internal Records System with the registration number of the related TT Project.

6.b Application for intellectual property protection

The application for intellectual property protection is filed by the CTU Rector's Office based on the Notice of R&D Achievement. The TT Administrator registers the entire intellectual property protection process (in the Internal Records System) and sees to it that all deadlines from the Internal Agreement are met. The IP Specialist may consult the Originators during the whole process if the Originators are interested.

The costs of intellectual property protection are incurred by the Originators' Department or by another Department as agreed. In the case that this Department does not have resources for the payment of fees related to the protection of intellectual property, it may ask the Faculty to pay these costs. The eligibility of these costs is assessed by the Commercialization Committee taking into account the TT Project Evaluation report, mainly its market potential. The Originators may also file an application to the CTU's Licence Fund with the IP Specialist's assistance.

6.c Continuous maintenance of intellectual property protection

After filing the application (or after granting protection, respectively), the TT Administrator monitors the deadlines for the maintenance fee payment and checks DPMTT, which is in charge of these records. The fees are paid by the Originators' Department or by another Department as agreed. In the case that the Department is not able to pay these fees, the Commercialization Committee makes a decision acting in the same way as in the case of application for new protection. The whole process is administered by the TT Administrator, who may use the IP Specialist's consultations.

7. TT Project's commercialization

The Project's commercialization is coordinated by the Technology Scout; he/she launches the Project at the TT Administrator's call after all preceding steps have been taken. The TT Administrator cooperates with the Technology Scout throughout the whole

commercialization process, particularly as regards the Internal Records System and by submitting relevant background materials.

The commercialization results in successful cooperation with an external partner, typically in the conclusion of a licence or another agreement. The number of successfully implemented TT Projects in the commercialization phase depends on the FCE internal capacities. If necessary, FCE may commission the commercialization of selected TT Projects with an external partner.

In offering research achievements, the common practice is to combine the licencing of an existing technology with other development activities customized for an industrial partner. The Technology Scout takes this into account in offering technologies to industrial partners.

7.a Commercialization Strategy

At the start of each TT Project's commercialization phase, the Technology Scout lays out the commercialization strategy. Part of the commercialization strategy is at least the following information:

- recapitulation of Achievement essence;
- market potential summary and specification of use (use case);
- industrial partners to address;
- intended commercialization form (e.g. sale, licence including exclusivity, combination of a licence and contract research, start-up with a licence, spin-off) and justification;
- costs related to commercialization (the Internal Agreement may be amended);
- indicative time schedule.

Commercialization costs are incurred by the Originators'/Authors' Department or by another Department as agreed. If this Department does not have resources for the payment of the necessary costs, it may ask the Faculty to pay these costs. This request is assessed by the Commercialization Committee considering the TT Project Evaluation and the Commercialization Strategy. If the Originators'/Authors' Department lacks the resources necessary for commercialization and the Commercialization Committee does not approve financing at the Faculty level, the TT Project is terminated in this phase. All the information above is reflected in the Internal Agreement.

7.b Identification of partner for commercialization

After laying out the Commercialization Strategy, the Technology Scout is involved in the communication with potential partners interested in the respective Achievement, mainly those who were identified in the TT Project Evaluation and the Commercialization Strategy. Based on the feedback, the Commercialization Strategy and, potentially, also the Internal Agreement (if the necessary costs have dramatically changed) is amended.

In communicating with an industrial partner where trade secrets must be discussed (e.g. patent application before its publication or know-how), a non-disclosure agreement (hereinafter also “NDA”) must be signed with this partner. The NDA model is in Annex No. 5 to this Methodology.

7.c Intellectual property valuation

In cases where it is relevant (mainly in licencing to start-ups), the valuation of intellectual property is conducted. The valuation is ensured by the Technology Scout with the help of an external court-appointed expert.

7.d Resolving Originator’s conflict of interests

In the case of choosing a start-up setup as the commercialization form, the researcher’s interests in relation to the Faculty/University must be handled. This step is ensured by the Lawyer at the Technology Scout’s call (if a TT Project reaches the phase of licencing a company at least partially owned by CTU employees).

7.f Intellectual property licencing

In the case of finding an industrial partner who will be granted a licence, the licencing process is initiated by the Technology Scout. The Technology Scout notifies the Lawyer, who uses the Licence Agreement model (see Annex No. 4 to this Methodology) and amends it according to current demands of the participating parties. The Lawyer also checks the harmony with the Internal Agreement, including its deadlines. The TT Administrator submits all necessary documents elaborated during the respective TT Project implementation to the Lawyer (at their call).

The Technology Scout is responsible for communication with the industrial partner. The terms of trade are proposed by the Technology Scout and approved by the FCE Secretary and the Vice-Dean for R&D. The FCE Secretary and the Vice-Dean for R&D may ask the Commercialization Committee for an opinion on the licence or another agreement related to the technology transfer.

The licence agreement is signed by the FCE Dean (or submitted to DPMTT to be signed by the Rector, see Directive XXXX). The Technology Scout files the licence (or another) agreement in the Internal Records System and submits it to the Economist for processing. The Economist is responsible for checking the duties of individual parties in the agreement. To identify the yields and costs and relate to specific TT Projects, the registration numbers from the Internal Records System are also used in internal financial and accounting systems.

8. Supervision over (licence) agreements

8.a Licence agreement registration and entering in contract register

The Faculty Economist will receive a licence agreement copy from the Technology Scout and file it in their records system (the Internal Records System used by the TT Administrator may be used). The agreement is entered in the contract register in keeping with internal regulations currently in force.

8.b Invoicing

The Economist is responsible for invoicing resulting from all concluded (licence) agreements and for other duties included in these agreements.

9. Remuneration of individual parties pursuant to Internal Agreement

The Economist remunerates individual parties to the Internal Agreement. Existing employees are typically remunerated within their salary package, and Originators who are no longer employed by CTU are remunerated based on an unnamed contract receiving the same rate as the existing employees.