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FOR INFORMATION	**FINANCE COMMITTEE** 371st Meeting **18 March 2020**	-

POLICY ON THE MANAGEMENT OF INTELLECTUAL PROPERTY IN KNOWLEDGE TRANSFER ACTIVITIES AT CERN

This document is an update of the IP policy presented to Finance Committee for information in March 2010 (CERN/FC/5434/RA).

Since then, several parts of the policy have been expanded and complemented by three new policy documents (on spin-off companies, software dissemination and patents) and some parts of the document have become obsolete. Moreover, the group responsible for knowledge transfer activities at CERN has changed its name from KTT to KT.

This document reflects these changes and refers to the new policy documents.

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1 Introduction

CERN's mission, according to its founding convention, is to provide for collaboration among European States in nuclear research of a pure scientific and fundamental character and in research essentially related thereto. The results of its experimental and theoretical work shall be published or otherwise be made generally available.

To fulfil its mission CERN builds and operates accelerators and related equipment. These activities generate intellectual property (IP) that may have applications in research domains other than particle physics or that may be commercially exploited by industry. The CERN Member States have expressed the wish that such IP be made available for the benefit of its research institutes that are not active in particle physics and its industry through knowledge transfer activities.

This document sets out the principles forming the basis for the management of IP in knowledge transfer activities at CERN. The term "knowledge transfer activities" refers to activities where CERN intentionally passes on its knowledge and technologies, or uses them to create new technologies, products, or services, for applications in research domains other than particle physics or for commercial exploitation, the resulting "transfer" being regulated and evidenced by a formal written agreement.

The principles set out herein integrate the results of CERN's experience in knowledge transfer activities and are in line with the Intellectual Property Charter presented to CERN Council on 18 September 2009 (CERN-Council-S/049) and the recommendations of the Commission of the European Communities (C(2008)1329) published on 10 April 2008[1].

This document first sets out the definitions of the terms used and the general founding principles of the policy. It then describes the more detailed principles for:

- ownership and protection of IP created in the framework of CERN's scientific programme;
- knowledge transfer through partnerships with other institutes and/or industry;
- knowledge transfer through exploitation.

This document finally presents an incentive scheme and considers principles relating to the reporting and approval of knowledge transfer activities and the associated IP management.

[1] C(2008)1329: Commission recommendation on the management of intellectual property in knowledge transfer activities and code of practices for universities and other public research organisations; Brussels, 10.04.2008.

1.1 DEFINITIONS

For the purpose of this document the following definitions apply:

- The term "**collaborative R&D**" means research and development where the research goals are agreed by the partners, who all contribute *technologies* and/or resources to generate *technological results* with potential for commercial exploitation.

- The term "**commercial licence**" means a licence allowing the licensee to carry out commercial exploitation of the licensed *technology*.

- The term "**consultancy"** means the provision of expert advice or specific studies to a third party. The generation of new *IP* is not the prime purpose of *consultancy*.

- The term "**contract research**" means research and development based on CERN *technology*, mainly executed by CERN, financed by a commercial partner and where the *technological results* are targeted to a specific market.

- The term "**dissemination**" means the disclosure and use of *technologies*, including the publication of the description of these *technologies* in any medium, direct or indirect use, and commercial exploitation.

- The term "**intellectual property or IP**" means creations of the human mind that benefit from the legal protection of a property right. The major legal mechanisms for protecting *IP* are copyrights, patents, and trademarks. *IP* rights enable owners to control access to, and use of their *IP*.

- The term "**invention**" means a product or process providing a novel solution to a technological problem.

- The term "**inventor**" refers to a person contributing one or more new and original elements to an *invention*.

- The terms "**knowledge transfer (KT)**" and "**technology transfer**" are used interchangeably, and refer to the initiatives aimed at exchanging or fostering the exchange of knowledge, including *technology*, between CERN and third parties, and their use to create *technological results*, for applications in research areas other than particle physics and/or commercial exploitation.

- The term "**non-disclosure agreement**" means an agreement that defines the conditions and the purpose under which confidential material, knowledge, or information will be shared while restricting the access to it by third parties.

- The term "**open source**" means software licence conditions that are compatible with the principles defined by the Open Source Initiative[2].

[2] http://www.opensource.org/

- The term "**patent family**" means a set of patents taken in various countries to protect a single *invention* claiming the same priority/priorities.

- The term "**pre-existing technology**" refers to *technology* existing at the outset of *collaborative R&D* or *contract research* and required for its execution. *Pre-existing technology* can also be referred to as 'background IP'.

- The term "**services**" means the provision of services performed with CERN specific equipment or infrastructure and the related know-how. The generation of new *IP* is not the prime purpose of *services*.

- The term "**spin-off company**" means a start-up company established on the basis of a CERN *technology*.

- The terms "**technology**" or "**technologies**" refer to know-how, *inventions*, hardware, software, reports, drawings, design documents, processes and protocols with potential for research and/or commercial exploitation.

- The term "**technological results**" means the *technologies* generated during the execution of *collaborative R&D* or *contract research*. *Technological results* can also be referred to as 'foreground IP'.

- The term "**knowledge transfer partnership**" means *technology transfer* through *service*s, *consultancy, collaborative R&D* and/or *contract research*.

1.2 GENERAL PRINCIPLES

Taking into account CERN's mission as stated in its founding Convention and applicable rules, the following general principles apply to all *knowledge transfer* activities:

1. Use of *knowledge transfer* practices that maximise the *dissemination* and visibility of *technologies*. In cases where revenue generation and *dissemination* conflict, priority is given to *dissemination*.

2. Use of *IP* management and *knowledge transfer* practices compatible with collaborative and open research.

3. Priority is given to CERN's scientific programme. In this context, CERN does not normally accept commitments to deadlines, time constraints, volume, or meeting specifications.

4. Equal opportunities for industry in all CERN Member States through, for example, the wide promotion of available *technologies*.

5. Preference is given to *knowledge transfer* to industry established in CERN's Member States.

6. Appropriate measures are adopted to avoid *knowledge transfer* to industry impairing the application of the principle of fair competition in future procurements.

7. No *knowledge transfer* for military applications.

8. No competition with industry.

9. No commercial role or responsibilities for CERN.

10. CERN normally transfers *technology* on an "as-is" basis and does not provide guarantees or accept liability for the use and commercial exploitation of transferred *technologies*.

2 IP generated through CERN's scientific programme

2.1 TECHNOLOGY DISCLOSURE

Technologies developed at CERN in the framework of CERN's scientific programme and with *knowledge transfer* potential should be disclosed to the *Knowledge Transfer* (*KT*) experts.

The *KT* experts, in collaboration with the *technology* experts, assess, following verification of the CERN ownership of the disclosed *technologies,* their potential for transfer and commercial exploitation and the appropriate means of protection.

Disclosed *technologies* should therefore not be made publicly available before a decision regarding protection is made (see 2.3.1). In the case of *inventions*, the *inventor* will be informed as to whether patent protection will be sought no later than 4 weeks after the disclosure.

2.2 OWNERSHIP

CERN normally retains the ownership of the *technologies* it develops in the framework of its scientific programme. CERN will only in exceptional cases assign its rights to a third party if this is considered to be the best route for *dissemination* of the *technology*. In any event, CERN ensures, via suitable arrangements, that the *technology* can be freely used for the execution of CERN's scientific programme.

Where a *technology* has been developed jointly by CERN and other parties, and in the absence of an applicable agreement stipulating otherwise, joint ownership of the *technology* may be considered.

In the event of joint ownership, a joint ownership and exploitation agreement is concluded for *technologies* with *knowledge transfer* potential, comprising the following:

- the conditions for the protection, use and commercial exploitation of the *technology* and for the sharing of revenues;
- a provision ensuring free use of the *technology* as required for the execution of CERN's scientific programme.

2.3 PROTECTION

2.3.1 Patents[3]

CERN manages a patent portfolio in a cost-effective way and takes patenting decisions in accordance with the principles laid down below.

CERN considers patent protection for its *inventions* when the following conditions are met:

- the formal requirements for patentability[4] are met;
- the *inventor(s)* is(are) clearly identified and there is no dispute over the ownership of the *invention*;
- the *invention* has an established potential for commercial exploitation;
- the patent protection facilitates the transfer or the patent makes the *invention* more attractive to companies;
- the *inventor(s)* or (an)other knowledgeable expert(s) is(are) available to provide technical support for the transfer of the future patent.

The initial motivation and conditions for seeking patent protection will be reassessed at regular time intervals during the patent's lifetime. The *patent family* may be abandoned or the geographical scope reduced if the initially anticipated commercial potential is not confirmed. The specifics of the patent strategy are set out in a dedicated policy document[5].

2.3.2 Other types of protection

Copyright
At CERN, copyright protection is particularly relevant for technical documentation (technical design documents, technical procedures, technical reports, drawings etc.) and for software (source code, preparatory design material, documentation etc.) irrespective of their potential for transfer or exploitation.

Although not strictly a prerequisite to the existence of the copyright, a copyright notice should be included in all technical documentations and software produced by CERN members of personnel (© CERN [year of first publication]). The copyright notice serves to assert CERN's ownership of the work, and to notify third parties that the work is protected by copyright, and who the owner of the copyright is.

Secrecy
Confidentiality undertakings serve to protect *technology* that cannot be protected otherwise (typically know-how particularly relevant in *contract research, consultancy*

[3] A patent is a property right granted by a government office (or regional office acting for several countries) which provides the patent owner exclusive rights on the patented *invention* (manufacture, use, sale, import). This statutory right gives the owner the right to exclude others from commercially exploiting their *invention*. It does not, however, guarantee that the owner can use or exploit it since access to other patented *inventions* may be necessary for such exploitation.
[4] Novel, inventive, industrially applicable and patentable subject matter
[5] CERN Policy on the use of patents as a tool for Knowledge Transfer, available at https://cds.cern.ch/record/2709312.

and *services*) and to ensure that the novelty criterion of patentability is not jeopardised before an application is filed.

Hence, discussions or presentations related to CERN know-how or to an *invention* identified as patentable and/or transferable are covered by a *non-disclosure agreement*. *Service* agreements, *consultancy* agreements and *contract research* agreements comprise appropriate confidentiality provisions.

The above means of protection of *IP* are the most commonly used in *knowledge transfer* activities at CERN. Other types of *IP* rights exist, such as trademarks, but are used only in very specific circumstances.

3 Knowledge transfer through knowledge transfer partnerships

3.1 COLLABORATIVE R&D

3.1.1 Specific conditions

CERN considers entering into *collaborative R&D* when the following conditions are met:

- a CERN *technology* is required to execute the *collaborative R&D*;
- the resources and key personnel required from CERN are expected to be available for the duration of the *collaborative R&D*;
- the ownership of the *pre-existing technology* (see below) is clearly established.

Collaborative R&D agreements are drafted in accordance with the principles laid down below.

3.1.2 Identification and ownership

The partners shall, at the outset of the *collaborative R&D*, clearly identify and describe their *pre-existing technology* required for the execution of the *collaborative R&D* and/or the use and commercial exploitation of the *technological results*.

Applicable limitations (e.g. existing licence, limitations imposed by the manufacturer) for the use and commercial exploitation of *pre-existing technologies* shall be clearly identified and described.

The ownership of the *technological results* should be vested in the partner that has generated them.

In cases where the *technological results* have been developed jointly by more than one partner, joint ownership of *technological results* may be considered. In the case of joint ownership, the principles laid down in section 2.2 above apply.

3.1.3 Protection

The partners shall be required to identify *technological results* with a commercial potential and have the obligation to consider the protection of the associated *IP*. The principles laid down in section 2.3.1 for decisions related to patenting the *technological results* owned by CERN or jointly owned by CERN and its partner(s) apply.

The role and responsibilities for patent prosecution and the payment of the associated costs shall be clearly defined.

3.1.4 Access rights

Free access to all *technological results* required for the execution of CERN's scientific programme shall be ensured.

CERN shall have free access to the *pre-existing technology* owned by partners and required for the use of the *technological results* in the framework of its scientific programme. This shall include the right to give access to the *pre-existing technology* owned by partners where such access is required to have the *technological results* manufactured by a third party.

CERN shall retain the right to exploit the *technological results* in fields of application which have been identified as not of interest to the partner(s) and shall have access to the *pre-existing technology* owned by partners required for commercial exploitation.

The sharing and redistribution mechanisms relating to revenues resulting from the commercial exploitation of *technological results* shall be clearly defined.

3.2 CONTRACT RESEARCH

3.2.1 Specific conditions

CERN considers executing *contract research* when the following conditions are met:

- a CERN *technology* is required to execute the *contract research*;
- the resources and key personnel required from CERN are expected to be available for the duration of the *contract research*;
- no commercial entity in the Member States possesses the required *technology* to execute the *contract research*;
- no existing limitations (exclusive licence, limitations imposed by the manufacturer of the *technology*) prevent CERN from executing the *contract research*.

Contract research agreements are drafted in accordance with the principles laid down below.

3.2.2 Identification and ownership

The *technological results* of the *contract research* shall normally be owned by CERN (see also next paragraph), and CERN retains the right to publish scientific results, possibly subject to reasonable delay to allow for protection.

3.2.3 Protection

In cases where patent protection is sought, the decision to patent is made in consultation with the commercial partner. CERN may consider joint ownership of the patent with the commercial partner. In such a case, the commercial partner will normally be responsible for the patent prosecution and for bearing all associated costs. The principles laid down for joint ownership in section 2.2 apply.

3.2.4 Access rights

Free access to all *technological results* required for the execution of CERN's scientific programme shall be ensured.

CERN shall retain the right to exploit *technological results* in fields of application which are not of interest to the commercial partner.

3.3 SERVICE AND CONSULTANCY

CERN considers executing a *service* when the following conditions are met:

- the *service* requires a CERN-specific piece of equipment or facility not readily available on the market in the Member States;
- the resources and key personnel required from CERN are expected to be available for the duration of the *service*;
- it is believed, at the outset of the execution of the *service*, that no new *technology* will be generated (otherwise, a *contract research* should be considered).

CERN considers executing a *consultancy* when the following conditions are met:

- the *consultancy* requires expertise available at CERN;
- no commercial entity in the Member States possesses the required expertise to provide the *consultancy*;
- the resources and key personnel required from CERN are expected to be available for the duration of the *consultancy*;
- it is believed, at the outset of the execution of the *consultancy*, that no new *technology* will be generated (otherwise, a *contract research* should be considered).

Service and *consultancy* agreements contain a clause stipulating that the ownership of unanticipated new *IP* is vested in CERN.

3.4 FUNDING, COSTING AND OVERHEADS

Part of the revenues stemming from *knowledge transfer* activities is allocated to the "KT fund" (see also section 5), which is used to support and develop *KT* initiatives. The decisions to finance *KT* initiatives from the KT fund are based on an assessment of their potential to disseminate CERN *technology* effectively.

The price charged for *contract research* and *services* shall consist of the identified direct costs and expenses plus an overhead depending on the nature of the contract. Overheads shall also be added to the production costs accounted for in the supply part, if any, of licence agreements (see 4.1.2).

The price for CERN experts in *consultancy* shall correspond to standard daily rates for CERN experts and cover at least the full cost of the *consultancy*. The daily rates may be increased in cases of particularly unique expertise.

Overheads for *collaborative R&D* and *contract research* funded by public funding agencies will depend on the rules defined by those agencies.

4 Knowledge Transfer through exploitation

4.1 LICENSING

4.1.1 General

As a general rule, the conditions under which CERN makes available its *technologies* to third parties shall be defined in a written licence agreement. This is the case even where no financial compensation is sought.

Licence agreements are drafted in accordance with the principles laid down below. The price for the *technology* is established in accordance with the principles laid down in section 4.3.

4.1.2 Technology production

CERN has no vocation to be a *technology* manufacturer.

However, in cases where a licensed CERN *technology* includes a tangible product or component (e.g. ASIC, hardware component) that is only manufactured by or for CERN, the licence agreement may exceptionally include the supply of such products.

In all cases, CERN actively seeks capable commercial partners to manufacture such products under dedicated production licences.

4.1.3 Technical support

The licence agreement may in addition include technical support covering know-how transfer and/or expert advice for the implementation of the CERN *technology*. Such support is however subject to the availability of the CERN expert(s).

4.1.4 Exclusivity

In some cases, a *technology* can be disseminated only through a licence having some form of exclusivity.

Exclusive licences are considered in the following cases:

- when significant investments are required to bring the *technology* to the market and exclusivity is needed to protect the licensee's investments and/or are required by investors;
- when the *technology* is the result of a *contract research* or *collaborative R&D* (see 3.1 and 3.2) executed by CERN and fully funded by the industrial partner.

Exclusive licences shall include provisions:

- conditioning the exclusivity to the actual commercial exploitation of the *technology*;
- ensuring free use of the *technology* as required for the execution of CERN's scientific programme.

4.1.5 Software

For software developments that are owned in whole or in part by CERN, CERN favours the *open source* approach.

Exceptions can be made where there is good reason not to apply the *open source* approach at a given time. Alternatively, a dual licensing scheme can always be considered. The specifics of the software dissemination strategy are set out in a dedicated policy document[6].

4.2 SPIN-OFF COMPANIES

CERN encourages the creation of *spin-off companies* willing to exploit its *technologies* commercially.

CERN offers *spin-off companies* support in fields that are within its technical competence as well as the use of its equipment and infrastructure, always subject to, and within, the limits and legal framework associated with its international status.

Support offered to *spin-off companies* is subject to the availability of resources and is regulated by a dedicated agreement defining the specific conditions of the support and access to facilities, services, and equipment as may be required. Access to CERN *technologies* is normally regulated by a dedicated licence agreement. The specifics of the strategy for support to *spin-off companies* are set out in a dedicated policy document[7].

[6] CERN Policy on software dissemination, available at https://cds.cern.ch/record/2709310.
[7] CERN Policy on support for companies established to exploit CERN technologies, available at https://cds.cern.ch/record/2709308.

4.3 PRICING

For *commercial licences*, the price is set with a view to obtaining a fair share of the revenues generated through the commercialisation of the *technology*.

In cases where CERN is supplying a product incorporating the *technology* (see 4.1.2), the price covers at least all direct production costs and expenses plus overheads. The final price set by CERN aims at matching the market price for similar products.

CERN normally grants favourable financial conditions for non-commercial licences to academic institutions, it being understood that the price of non-commercial licences shall cover at least the costs and expenses incurred by CERN to produce and execute the licence agreement.

The price for technical support shall cover the full cost of the support. Standard daily rates for CERN experts are used where the duration of the support is limited to a few days.

Spin-off companies are normally given favourable financial conditions for the licensed *technology*.

5 Incentives

Revenues from *knowledge transfer* activities are used to encourage and financially support *KT* initiatives including but not limited to *technology* disclosure, technical support for the exploitation and initiation of and participation in *knowledge transfer partnerships*.

The net revenues from the commercial exploitation of *technologies* (see section 4) are normally redistributed according to the following scheme:

a) one third to the section or team where the *technology* has been developed, up to an annual ceiling of 100 kCHF per *knowledge transfer* case;

b) one third to the department where the *technology* has been developed, up to an annual ceiling of 200 kCHF;

c) one third to the KT fund (see also 3.4) or the remainder of the revenues after deduction of the amounts under a) and b) above.

The redistributed revenues are allocated to the annual operations budgets of the year following receipt of these revenues.

Where the revenues cannot be traced back to a particular section or team but can still be traced to the department, the revenues from the commercial exploitation of *technologies* is redistributed in equal shares to the KT fund and to the department, again respecting the annual ceiling of 200 kCHF to the department.

The overhead charged for the execution of *contract research*, *services*, the supply part of licence agreements if any, and the personnel cost margin for *consultancy* is redistributed according to the following scheme:

- half to the section or team executing the *knowledge transfer partnership* or in charge of the supply;
- half to the KT fund.

Departments endeavour to use redistributed revenues to support and encourage further *KT* activities. The details of the budget implementation of KT incentives and the KT fund are spelled out in "Budget implementation of KT incentive policy and KT fund"[8].

6 Approval and arbitration

Questions relating to the interpretation and implementation of this policy are submitted to the Director-General for decision.

Knowledge transfer agreements involving technical support and resources require the approval of the section leaders and the group leaders of the sections or teams providing the support and resources, and, where the resources exceed 20 person-days, the approval of the department head and the director.

Knowledge transfer agreements involving a commitment for expenditure between 50 and 100 kCHF require the approval of the IPT/PI Group Leader or his deputy, and those involving a commitment for expenditure above 100kCHF require the approval of the IPT Department Head.

The KT Group Leader and his/her deputy receive a power of attorney to sign *knowledge transfer* agreements and amendments thereto.

7 Reporting

The KT group communicates on a regular basis on all the *technologies* newly available for transfer to the KT Forum.

The KT group reports to the CERN Management on the use of the KT fund on a twice-yearly basis.

The KT group submits an annual report to the Finance Committee detailing the:

- number of new projects receiving funding from the KT fund and medical applications budget;
- number of KT contracts signed during the year;
- distribution of KT contracts by type of contract;
- distribution of KT contracts by type of partner.

[8] Available at https://cds.cern.ch/record/2140618/files/ktt_incentives_budget_implementation.pdf?