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IPR RULES AND PROCESSES
FOR
DEMONSTRATION PROJECTS FOR HYDROGEN AND FUEL CELL TECHNOLOGY IN ROAD TRANSPORT

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HYLIGHTS

Hydrogen for Transport in Europe

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EXECUTIVE SUMMARY

"HyLights" (or the "Project) is a Coordination and Support Action to accelerate the commercialization of Hydrogen and Fuel Cells (HFC) technologies in the field of transport in Europe.

This report is part of the subcontracting activities of the Project, as foreseen in the Description of Work and subsequently adapted to the needs of the project partners, the European Commission and the evolutions in view of the establishment of the Joint Technology Initiative on Fuel Cell and Hydrogen, henceforth "FCH JTI".

The objective of this report is to identify and elaborate on the key issues pertinent to the protection of Intellectual Property Rights (IPR) of the entities/project promoters participating in large-scale hydrogen road transport demonstration projects, the so-called "Lighthouse Projects" (LHPs) within the context of the future FCH JTI.

Within the framework of the LHPs, HFC techs are further developed, tested, evaluated and validated. These activities are based on technologies and technical knowledge of the project partners/promoters and will generate technologies and large amounts of relevant data (henceforth referred to cumulatively as "IP"). This IP may comprise information that represents a competitive advantage for the project partner/promoter concerned. Nonetheless, the sharing of this IP among the partners is essential for the efficient execution of the projects and will speed up development of the technologies involved enhancing the potential of large scale commercialization of these technologies and facilitating the design of a harmonized set of Regulations, Codes and Standards (henceforth referred to as "RCS"). To resolve this issue, a balance must be struck between protecting and sharing of IP by rules and processes that serve all project participants/promoters´ interests. At the same time these rules and processes should take into account that

- **(i) joint development of technologies, giving rise to joint IP ownership issues, is likely to occur within these projects, and**
- **(ii) the projects might be executed in various Member states, subject to national (mandatory) IP rules.**

The projects in most cases are and will be co-funded by the EC under the Framework Program ("FP") 7 and private and local public entities. FP 7 imposes general IP rules on the project partners. These rules leave the regulation of several important issues to the project partners. Among these issues are the access to (confidential) IP and the way in which joint ownership of newly developed IP, known as foreground, is regulated.

The analysis of Faasen and Brinkhoff has addressed several possibilities to handle IPR produced throughout the demonstration projects´ lifetime. One possibility is the establishment of simple consortium agreement wherein the stipulations on IPR, access and use rights will be detailed and another one is the establishment of a separate legal entity (SLE).

In the case of LHPs the strategic relevance of the partnerships undertaking the projects is limited to the time frame of technology development and demonstration until the beginning of first full-scale commercial activities. This chronological dimension needs to be reflected when legal structures for LHPs with a focus on technology validation are discussed.

Based on existing industry experience a lean structure without a single legal entity (SLE) governed by a consortium agreement (CA) to address the aforementioned timeframe and that will be regulating the relevant management, operational and data protection/ IP issues is to be favoured for the majority of LHPs also due to the reduced complexity that such a lean structure presents vs. a more complex SLE structure. The latter would be more suitable should competing companies decide to undertake joint development activities of new hydrogen technologies with the strategic intent to continue this partnership following conclusion of the LHP demonstration phase, if a positive business case could be achieved. In addition, such a venture is likely to deliver a significant amount of patents and other rights on IP, which require higher protection levels over a longer period of time.

1 INTRODUCTION

1.1 General

This report was prepared by Brinkhof in collaboration with Faasen & Partners at the request of Kellen Europe in its quality of leader of work package 5 of the HyLights project (funded under the Framework Program 6 under Contract N°S07.53917/019990 - Priority [6.1 / 6.2] Call 3 [Call identifier: FP6-2004-TREN-3]). Brinkhof and Faasen & Partners were chosen to investigate the subject-matter of this report after a Call for Tender of 20 June 2007 provided by Kellen Europe.

The aim of this report is to propose a set of rules and/or processes regarding intellectual property and know-how (data) (together "IP") brought in or developed by partners in demonstration projects in the field of: hydrogen and fuel cell technology in the road transport sector ("HFC road transport techs"). These demonstration projects should eventually lead to large-scale commercialisation of HFC road transport techs. The factors taken into consideration while drafting this report were:

- **The legal form and management structure of collaboration and how this interferes with IPR rules; advantages and disadvantages;**
- **The fact that the partners come from different EU Members States, and that the location where the demonstration project will be realised may vary;**
- **The fact that not only private (oil, gas and automotive industry) but also public (Municipalities, Regions, National governments, European Commission) entities/organisations might be participants and provide financing to the project;**
- **The fact that HFC road transport techs are currently at a pre-commercialisation phase. The IPR rules should not reflect at this point a situation where negotiations would take place in view of a commercially viable and deployed technology.**

One of the critical success factors for HFC road transport tech demonstration projects is the willingness of the partners to share IP they own and generate during their participation in projects. Private partners should be stimulated to share all relevant knowledge and know-how. This will provide a broad basis and avoid repeating work that has already been done. To create a sharing culture, the partners must have confidence in the legal structure of the collaboration. This structure should, from a broad perspective, be such that it

(i) ensures optimal efficiency in project execution by optimal sharing of information, while

(ii) safeguarding the commercial interests of the private partners.

The above two requirements seem at first sight at odds with each other. Sharing all relevant IP among the project partners entails that the partners will be able to use, or build on, each other's IP in commercialising the HFC road transport techs. At first sight it may seem that this would neutralise the competitive advantage (that may be vested in the exclusivity of such IP) of the private project partners vis-à-vis each other. This prospect may urge these partners to restrict access of their partners to their respective IP. However, seen from a broader perspective, promoting the growth and maturation of HFC road transport techs as such compared to traditional forms of road transport techs, should be at this moment the primary goal of the demonstration projects. In this broader view the commercial interests of the private partners run parallel at this moment. In the future, when HFC road transport techs become a viable alternative next to, or instead of, current forms of road transport techs, i.e. in the commercial phase, this may change but that situation is outside the scope of this report.

1.2 Approach

The rules and processes for HFC road transport demonstration projects that we aim to propose in this report must fit into the legal IP framework that applies to these demonstration projects. To that end we will in the following identify those applicable rules, which include the IP rules that are part of the Framework Program 7 Grant Agreement. By way of reference, we will also consider the IPR policy that is part of the Proposal for a Council Regulation setting up the Joint Technology Undertaking for Fuel Cells and Hydrogen (COM(2007) 571 final).

We will review the subjects addressed by the applicable rules and how they propose to solve relevant issues. Considering the scope of the report, this will be a broad outline. For a detailed review of the rules reference is made to the documents and explanatory memoranda or guides, referred to in the incorporated literature list.

After reviewing the IP rules, we will identify in broad terms what areas allow further implementation by the project participants given the circumstances typical for HFC road transport techs demonstration projects. These typical circumstances include:

- **There is a multitude of private and public project partners from different Member States;**
- **Demonstration projects take place in different Member States;**
- **The private partners in the projects are major competitors in the automotive and energy field;**
- **These fields are characterised by commercially driven technological research and development; technological developments create major competitive advantages – the stakes are high;**

- **Drawing from the above, information that may create competitive advantages is sensitive.**

Subsequently, we will consider what type of IP may be brought into and generated in HFC road transport techs demonstration projects, and what IPR may be vested therein. This is to ensure that the reader has an overview of the various forms of IP, IP rights and their peculiarities. In view of the scope of this report the legal framework referred to is at the European level. The complexities involved in local IP rules, and local implementation of the European legal framework, as well as the interpretation thereof by local courts are outside the scope of this report. Nonetheless these complexities may urge amendment or further elaboration of the proposals comprised in this report.

After having identified the IP(R)[1] relevant to the demonstration projects, as well as their peculiarities, we will identify what issues need to be resolved in proposed IPR rules and processes. Considering the specific nature of the demonstration projects, the type of stakeholders and the sort of IP(R) generated, a number of issues can be identified. These issues must be addressed or at least considered before the collaboration within the projects is able to function with optimal efficiency. These issues will be presented independent of the actual legal form the consortium.

The rules and processes that should address these issues are provided in the subsequent chapter. Herein we will attempt to provide rules and a legal structure that address the needs of the stakeholders, while ensuring that achieving the overall objective is not compromised.

Finally the report provides a number of best practices, which serve as both inspiration and reference point.

1.3 Materials used

The following materials were used to compile this report:

- **Water Cycle and Soil-related aspects, water technologies: results and opportunities, 2004, European Commission;**
- **HyWays A European Roadmap, L-B Systemtechnik;**
- **Development of Hydrogen and Fuel Cell Technologies in Large-Scale Lighthouse projects, final report, July 2006, AF Sweden, coordinated by F.-X. Söldner;**
- **FP7 Grant Agreement – Annex II – General Conditions;**

[1] **In this report the expression IP(R) is used to designate all intellectual property and the rights to that intellectual property. For example: an invention is IP, the ensuing patent is IPR. For the purposes of this report, IP includes (raw) data / know-how that is not susceptible to protection by an intellectual property right in the strict sense.**

- **Hylights Deliverable W5.1 & W5.2, initial comparison of different legal forms and management structures of hydrogen demonstration projects in Europe, version 1, February 2007, Kellen Europe;**
- **Guide to Intellectual Property Rules for FP7 projects, version 28 June 2007, European Commission;**
- **Proposal for a council regulation setting up the Fuel Cells and Hydrogen Joint Undertaking, COM(2007) 571 final, 9 October 2007;**
- **Commission Staff Working Document accompanying the Proposal for a council regulation setting up the Fuel Cells and Hydrogen Joint Undertaking, 13843/07 ADD 2, 12 October 2007;**
- **Fuel Cells and Hydrogen Joint Technology Initiative, Hydrogen and Fuel Cells Review Days 2007, 10 October 2007, Wiktor Raldow.**

2 EXISTING RELEVANT IPR RULES

2.1 *Background* and *Foreground*

The EU 7th Framework Program provides for definitions of relevant existing IP of participants to (research) projects (i.e. "*background*"[2]) and newly developed IP ("*foreground*"[3]). Although some of the HFC road transport techs demonstration projects originated in FP 6, the large scale ones will be financed partially by FP7, thus the definitions and rules utilised source from FP7. Moreover, the projects are linked to FP 7 in subject-matter and in management. The FP7 general conditions define participants to a funding agreement as "beneficiaries".

***Background* is information which is held by beneficiaries prior to their accession to an agreement, as well as copyrights or other intellectual property rights pertaining to such information, the application for which has been filed before their accession to the project, and which is needed fro carrying out the project or for using the *foreground*. *Background* may include tried and tested technology, but also information about failed technological attempts. Such information allows others to avoid similar mistakes or, in light of their own information, develop new technology.**

***Foreground* means the results, including information, whether or not it can be protected, generated in the course of a project. Such results include rights related to copyright; design rights, patent rights; plant variety rights, or similar forms of protection, but also (technical) know-how.**

2.2 EU 7th Framework Program

Within Framework Program 7, an IPR policy is part of the General Conditions of the Grant Agreement. Additional information and guiding principles to the FP7 policy are provided in the "Guide to Intellectual Property Rules for FP7 projects". The IPR policy is part of the Grant agreement, therefore it applies to all parties to such an agreement. As such it forms contractual obligations for the parties involved in a project under FP7.

The FP7 IPR policy provides certain minimum standards that have to be met. The way in which the listed requirements are to be implemented is left to the

[2] FP 7 agreement: General Conditions, Definitions II.1.4: ""*background*" means information which is held by *beneficiaries* prior to their accession to this agreement, as well as copyrights or other intellectual property rights pertaining to such information, the application for which has been filed before their accession to this agreement, and which is needed for carrying out the *project* or for using *foreground*;"

[3] FP 7 agreement: General Conditions, Definitions II.1.4 ""*foreground*" means the results, including information, whether or not they can exercise an option right; design rights; patent rights; plant variety rights; or similar forms of protection;"

parties. The requirements concern - among others - the access to, transfer and sharing of *foreground*. Key rule is the full dissemination of *foreground* to all relevant participants. To that end, e.g. the transfer of IP rights in *foreground* held by the participants may under specific circumstances be ordered by the Commission. The policy provides the participants with the opportunity to agree on specific solutions related to, for example access to *background* provided to the project. Additionally, the participants may agree to give exclusive licenses. The policy addresses the requirements of patent applications filed for inventions made within the project. No other individual IP rights are discussed.

The "Guide to Intellectual Property Rules for FP7 projects" clarifies questions with regard to joint ownership of IP. This includes IP rights held by more participants and IP rights held by a participant and a related entity outside the consortium. It describes issues related to transfers and licenses and objections the Commission may have against these. It also clarifies how the dissemination, including publication, of *foreground* should be handled. With respect to *background* it emphasizes that participants can agree to various forms to define *background*. This approach allows the participants the liberty to define what the relevant *background* is and thereby to regulate the access of the consortium participants to their respective existing knowledge. Specific issues related to access rights to specific *foreground* are also discussed.

2.3 JTI Fuel Cells and Hydrogen Undertaking

The JTI Fuel Cells and Hydrogen is proposed to be set-up as a joint undertaking. As part of the proposal for a council regulation setting up a joint undertaking for Fuel Cells and Hydrogen technology (COM 2007/0211) the IP rights policy of this proposed undertaking is described. Both the article and the preamble provide the IP rules, which will be part of the JTI. The proposal was drafted after consultation with public and private stakeholders. However, the proposal merely provides a guiding principle as it is only binding upon the undertaking it aims to establish.

Preamble 19 of the proposal stresses that the policy should provide for ownership rights for the participants in the projects and should provide for proper exploitation of IP. The relevant article is I.24, "Intellectual property rights policy". This article sets out that the joint undertaking shall adopt rules to govern its intellectual property rights policy. These rules shall be part of the various agreements between the participant and others. The goal of the policy is to rapidly generate *foreground* information aimed at developing commercial results. Additionally fair allocation of rights and rewards and a broad participation of public and private entities are desirable.

The guiding principles of this IPR policy are that participants remain the owners of the *background* and *foreground*. Specific rights and licenses need to be agreed upon in the relevant agreements between the parties involved. The policy does stipulate, however, that participants must agree to dissemination and

use of *foreground*. This stipulation may be limited by the protection of the participants' IP rights and their commercial interest.

2.4 Identification of areas left to the project partners

Both the FP7 and JTI Fuel Cells and Hydrogen IP policy leave the participant a lot of room to negotiate specific rules, as long as certain minimum requirements are met. These requirements see to the availability of *foreground* to the project and the partners. The ownership of the *background* is not affected by the policies.

Both the FP7 IP policy and JTI Fuel Cells and Hydrogen IPR rules take the position that *foreground* is held by the participants. This approach requires extensive agreements for the IP(R), which may come into existence. If joint IP is likely to come into being, a complex web of agreements may be required, extending to the consortium participants and even entities related to the participants. The access and transfer of *foreground* and *background* will also require a complicated system of approval involving all participants. The number of individual arrangements with specific participants will probably reduce transparency and increase the administrative burden on the central coordination within the consortium.

Neither policy addresses specific IP rights other than patents. Obviously neither indicates what IP is likely to be most relevant for HFC road transport techs demonstration projects. Furthermore the above IPR policies lack clear guidance as to the actual agreements, which must be implemented. Agreements between the consortium and the participants may differ from one participant to another. Also the way in which jointly generated IP is handled is not specifically addressed. Additionally, the above policies do not provide insight how the balance should be struck between the desired proper exploitation and the ownership of the IP by the individual participants.

3 IPR AND LEGAL FRAMEWORK

3.1 Intellectual Property Rights and legal framework

This chapter provides an overview of the IP(R) that commonly exists in the EU, and the protection it provides, and the applicable legal framework.

3.1.1 Inventions - Patents and Utility models

A patent is a statutory monopoly granted for a limited time (commonly for 20 years as of the date of application) in exchange for publication of this invention. An applicant is required to provide sufficient information about its invention to allow a person of ordinary skill in the technological field to apply the invention. A patent gives the patentee the exclusive right to commercialise the invention for the duration of the patent.

Patents are granted for inventions, which are susceptible of industrial application, are novel and involve an inventive step. Utility model rights are very similar to those granted by patent laws. Currently, a small but significant number of countries and regions provide utility model protection. Additionally there is less common ground between the existing respective laws of the countries that do offer utility model protection.

The grant procedure for patents applied for on the basis of a unitary European patent application is governed by the European Patent Convention ("EPC") of 5 October 1973. The European Patent Office ("EPO") is the granting authority. This convention was replaced on 17th December 2007 by the Convention on the Grant of European Patents, concluded in Munich on 29 November 2000 ("EPC 2000"). The EPO is not associated with the European Union. The countries, which are party to the treaty, include the EU member states.

Apart from European patents, many countries have a parallel procedure for national patents. Both the national patents and European patents are governed by national law, apart from a limited number of aspects of European patents. The EPC does detail some rights and obligations of patents granted on the basis of a European application. However, in practice major differences exist between the various countries when litigating patents.

3.1.2 Works - Copyright

Copyright is, of origin, the exclusive right that is granted to creators of "literary and artistic works". The object of the exclusive right is, in essence, a particular tangible form or expression of an idea, or information (commonly called a 'work'). Copyright is the exclusive right to multiply and publish a work. Copyright come into being by the mere creation of a work. The duration of the right is limited to seventy years after the work was published if the creator is a legal entity. If the creator was a natural person, the right ends after seventy years

after his or her death. After the copyrights have expired, the work is free to be used by everyone. Eligibility for copyright protection does not require a work to be new in an absolute sense. It is generally enough if the work has a distinct character. This character is the particular expression of its creator's idea or view.

Copyrights are the subject of Directive 2006/116/EC of the European Parliament and of the Council of 12 December 2006 on the term of protection of copyright and certain related rights. National doctrines or legal customs have influenced the implementation of the Directive to some extent. Additionally, the Directive does not cover the full spectrum of issues associated with litigation of copyright disputes; as these are subject to national law on procedure etc. Therefore the application, even of harmonized concepts, is likely to differ between various member states.

In some countries, non-original (non-distinct) writings may be protected by operation of law. This right, which is derived from and ancillary to copyright, protects accumulated information, e.g. TV program listings, or stock exchange listings. The protection this right confers is essentially similar to copyright protection. However, other than copyright protection, the work is not required to have a distinct character. The mere collection of the information is sufficient for the right to subsist. Neither does it require the substantial investment or personal choice of the author which is necessary for a database right to come into being.

3.1.3 Collections of data - Database Rights

A database is a systematic or methodical arrangement of elements that are individually accessible. Databases can be the object of copyright protection if the structure as such is original /has a distinct character, and the elements constituting a database can also be susceptible to copyright protection. However, the database right in the strict sense is the right that is conferred to the maker of a database in which, qualitatively and/or quantitatively, a substantial investment in obtaining, verification or presentation of the contents has been made. The database right confers upon its owner the right to forbid others extraction and/or re-utilization of the whole or of a substantial part of the contents of that database. Database rights are granted for a period of fifteen years after the completion of the database. The right comes into being by operation of law whenever a database is created that fulfils the statutory requirements.

Database rights as a sui generis right are protected by Directive 96/9/EC of The European Parliament and of the Council of 11 March 1996 on the legal protection of databases, which created rights, taking the interests of the commercial exploitation of databases into account.

3.1.4 Shapes of products - Design Rights

Design rights are rights vested in visual designs of objects. A design consists of a shape, configuration or composition of pattern and/or colour. A design can be

a two- or three-dimensional pattern used to produce a product, industrial commodity or handicraft. A design right is granted on the basis of an application. The rights are granted for up to a total term of twenty-five years from the date of application. During this time the proprietor of the right has the right to prevent any third party from using it on goods for which the design right has been registered. To be eligible for protection as a design, the design must be new and have an individual character. A design is new if no identical design has been made available to the public before the date of the application. It has individual character if the overall impression it produces on the informed user differs from existing designs at that date. Design rights protect the visible shape or pattern of an object.

Design rights exist both a national rights in the member states and as a unitary European Union design right. The harmonization of the national rights was the objective of Directive 98/71/EC of the European Parliament and of the Council of 13 October 1998 on the legal protection of designs. The Council Regulation (EC) No 6/2002 of 12 December 2001 on Community designs, created the EU Design right. The Office of Harmonization of the Internal Market (OHIM) examines, grants and administers European design rights.

IP rights do not extend to acts relating to a product which is the subject of those rights has been put on the market in the European Economic Area by IPR owner or with its consent (doctrine of 'exhaustion').

3.1.5 Technical data - Know-how (in the strict sense)

Several attributes are commonly associated with know-how in the strict sense of the word. The information concerned is secret, i.e. not known or readily accessible, has commercial value due to this secrecy; and the possessor of the know-how keeps it secret. Know-how is not an IP right; nevertheless it is often mentioned in that context. It plays a vital role in the day-to-day operations of the majority of companies. Know-how may consist of, for example, technical data, market knowledge to customer contact information. All this is know how, whether it is stored in the minds of individuals or on media (paper, electronic media). Know-how is often the basis of competitive advantages of one enterprise over the other.

The lawful owner of know-how has the right to prevent this know-how from being disclosed to, acquired by, or used by others without its consent. However, only if the above is done in a manner contrary to honest commercial practices. Know-how is often protected by contractual obligations or by the laws on tort. The dissemination and/or application of know-how by a third party may be difficult to prove. If know-how is licensed or transferred to a third party extensive contractual frameworks may be called for to prevent use in the event of a transfer and/or ensure secrecy.

The minimum level of protection to be awarded to Know-how is provided by the TRIPs[4] agreement. However, this minimum is to be implemented through national law in member states. These laws provide know how protection in various ways. For example either as a general tort, via a provision in a trade practices act or via a purposeful construction of an obligation between parties. Know-how protection is a very diverse subject with, in most member states, a long legal history in statutory law and case law.

4 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs), Annex 1C of the Marrakesh Agreement Establishing the World Trade Organization, signed in Marrakesh, Morocco on 15 April 1994

4 IP RELEVANT TO THE LHPS AND PROTECTION THEREOF

4.1 Identification of relevant IP

In this chapter it is elaborated, based on the activities of partners to HFC road transport techs demonstration projects, what IP(R) will come into being under these projects, and how it can be protected. The nomenclature of the FP 7 grant agreement (*background, foreground*) will be used.

4.1.1 Potential content of background and foreground

The research and development carried out as part of the projects will yield data. Processed and analysed data will be reported in written (electronic) reports. Not all data generated may at first sight be useful and be applied in manufacturing methods or products. However, all data is likely to be of some value, as research that does not lead to useful results may also be very valuable (i.e. "failed attempts").

Methods may cover anything from the application of specific technology to market knowledge. Either type may prove valuable to the commercialization of HFC road transport techs and reaching the overall goal of the demonstration projects. A product itself (i.e. its characteristics) or its specific shape can be the tangible result of the development. Additionally, keywords may be valuable identifiers for specific technology. Such keywords are often very suitable to communicate with the public.

4.1.2 Relevant IP for background and foreground

Patents can be applied for whenever inventive products or methods are developed during the projects. Relevant *background* will be an existing patent held by participants on which future development is based. *Foreground* patents stem from research and development during the project. Utility models may also be part of either *background* or *foreground*.

Copyright protected material is probably part of both *background* and *foreground*. Copyright may consist of data or collections thereof, e.g. databases. The scope of this protection depends on whether or not the arrangement data is the result of a choice of the person who collected or modified it. Mere collections of data may give rise to copyright protection ("non-original writings"). Copyright may subsist in the creation of a specific product. Copyright is usually restricted to elements of a non-technical nature, e.g. esthetical elements. Due to the broad nature of copyright protection in Europe, copyright may be vested in anything that can be considered a "work".

Database rights are likely to come into being under the projects, as data of various kinds will be gathered structured and/or analysed. In many instants the partners will have substantially invested in obtaining, verifying or presenting the contents of the databases so created.

Design rights may provide protection to two- or three-dimensional design of objects. The design rights do not aim to protect technical innovation as such. Shape of products is an intrinsic part of developing a marketable technology, and is therefore likely to be relevant only for the commercialisation phase of HFC technology. As much of the relevant technology is still under development, design rights may not be relevant *background*, but they can be relevant *foreground.*

The projects will likely bring forth vast amounts of data. Data may be technical data, in the form of sets of numbers, parameters, and rules present in test calculations, test reports and test protocols as regards tests in real life environment or computer test environments. Apart from technical data, other data, like cost data will be gathered and reported by the participants. As follows from our explanation in Chapter 3, mere data are not subject to protection by intellectual property rights. However, their specific arrangement may be, in the form of database rights or copyright. Reports based on these data may be protected by copyright (be it full copyright or the right in non-original writings). Additionally benchmarking information, market data and process conditions in manufacturing are likely to yield amounts of data. The data referred to in this paragraph is commonly referred to in a legal context as "know-how". Know-how is usually only protected effectively by secrecy, i.e. by preventing or limiting *access* to it. In the event it is shared with a party, either as *background* or *foreground*, strict agreements are required. Agreements to ensure secrecy may include strict procedures for use of it, and audit procedures to exert control over its use.

Examples of such procedures or principles may be:

- **Limitation /regulation of the amount of persons having access to confidential information – this function could be performed by an organ instituted by the collaborating partners (the "provider"). The tasks and authorities of this organ should be established by articles of establishment or another establishing document;**
- **Requiring the persons having access to the information ("receiver") to undertake an NDA between that person and the aforementioned organ, to prevent further dissemination- such NDA should at least include: (i) a limited use right (limited as regards to purpose, kind of information)] (ii) a specific and accurate description of the information disseminated, (iii) a penalty clause and a warranty that any confidential information shall remain confidential; (iv) a reporting obligation by the receiver toward the provider, so that the use of the information may be closely followed, giving the provider the opportunity and the right to intervene whenever desirable, and (v) proce-**

dural obligations of the receiver as regards the information after he/she has ceased to use the information (for its intended purpose)

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4.2 Protection of relevant IP

The projects entail the validation and evaluation of hydrogen and fuel cell technologies by way of technology demonstration for the ultimate purpose of market preparation at larger scale. Within several of these projects, public and private project participants will collaborate in achieving these objectives and also to capitalise on economies scale and avoid duplication of R&DD activities.

As aforementioned the main activities of the project partners within the LHPs will be:

- **the development, testing and demonstration of HFC technologies,**
- **the designing of test and demonstration protocols,**
- **the development or customisation of tools, and**
- **the collection , processing and reporting of data.**

Consequently, the IP that will be used and/or generated within these projects relates mainly to technologies, data collection, processing and reporting. More specifically, IP used and generated within the projects will probably comprise inventions, raw technical and other data, processed and analysed data (databases), testing and demonstration protocols, tools and reports (works subject to copyright). As already noted, other IP may be present at the outset of projects (*foreground*) or may emerge from them (*foreground*).

4.2.1 Protecting background: secret information needs protection

The private project partners are mostly parties that have built their activities around automotive or energy technology. As a consequence they will have developed and own IP and IPR related to their respective activities. Part of that IP(R) will relate to hydrogen fuel technology and related technology.

***Background*, insofar as it is protected by intellectual property rights and has been made publicly available, needs no specific protection. This is because the IP is already protected by an exclusive right or anyone may have access to it (it has been made public). An example of this kind of *background* is inventions disclosed in patents. The owner of the relevant IPR may choose to enforce such IPR or not, but the technical teaching of the patented invention is publicly available. Obviously, the relevant IPR owner/projects participant should not enforce IPR relevant to the demonstration projects against any of its project partners.**

***Background*, insofar as it is secret, needs to be protected against public dissemination, whether this *background* is protected by IPR or not. This kind of *background* comprises all internal relevant knowledge of a projects partner, including**

test and demonstration designs and protocols, raw and processed data, reports, tools, inventions (insofar as not patented) and technical know-how. Because private parties will usually consider this secret information competitively valuable, they will be inclined to share this *background* only if access to this *background* is restricted. Access may be restricted in time (only for the duration of the projects), in scope (only for a specific activity under the projects) and in circle of persons (only the persons that need access to the *background* in order to fulfil their tasks).

4.2.2 Protecting foreground: ownership issues and confidentiality

In executing the projects, the participants will among other things generate IP such as technology related knowledge and data, as technical know-how, test and demonstration protocols, tools, and they will generate, collect, process and report test and demonstration data. They may either do this jointly or on their own. Some of this material may require IPR protection.

Because *foreground* will be newly generated during and within the framework of the LHPs, any set of rules could in principle be conceived to be applied to *foreground*. However, as was the case with the question how to treat *background*, the purpose of the demonstration projects ultimately determines what protection regime will be favourable.

It is assumed that the respective LHPs partners will initially retain any legal right/prerogative towards the *foreground* generated from their activities in the projects. A second question is whether this ownership should/could remain with the partners.

The EC may want to have access to (confidential) foreground that was generated (partly) by its funding. This is a different question than the question of ownership. Seen from the viewpoint of technical value, access to foreground is in effect no different from ownership. However, ownership of intangible assets (which is what all foreground is about) has a certain commercial and monetary value for a private company, which is why the private partners may insist on ownership. The private partners may resist to the EC accessing their foreground for the reason that they may fear public dissemination once the foreground is in the hands of the EC. However, as was the case with protection of confidential information in general, strict regulation of the access to and the use of foreground may take away the private partners' concerns. For example, the EC could claim access to and use of foreground for specific (i.e. limited) purposes, like R&D. It could be given the right to use confidential foreground itself, for internal evaluation purposes. It could also be given the right to provide the information in anonymous/non traceable/aggregated form to third parties who in turn should enter into NDA's comprising strict rules regarding the access to and use of the information, which process, as with confidential information in general, should be monitored by a data processing and sharing organ (the "provider").

Foreground **in the HFC road transport techs demonstration projects is a result of joint effort of the project partners, which effort is (co-) funded by the EC. Therefore, the *foreground* is also the result of the EC's funding. It could be argued that in view of this funding, ownership of *foreground* should be with a European body. However, in projects in which technologies are evaluated and validated, *foreground* will obviously be heavily based on *background*. The participants to those projects will have already developed technologies on their own and have generated their own IP(R). These technologies, the *background* of these projects, will be further developed, tested and demonstrated in the course of the projects. Isolating the ownership of *foreground* from the project participants is likely not to be accepted by the projects participants because of the relationship between *background* and *foreground*. This situation is likely to be the case with the LHPs. Therefore it will be more beneficial to the objectives of these projects to let the benefit of *foreground* rest with the individual project partner or partners that produced it.**

Joint ownership of IP(R) may take different shapes. Parties may own undivided shares in the ownership of an IPR (usually equal shares, but one may agree otherwise). Likewise it is possible that parties agree to share different parts of e.g. a protected work or invention, although this is unusual in practice. The way in which the partial ownership of each respective party will be determined depends on what each party actually contributed to the protected work or the invention. Usually such factual information is gathered from internal notes or memos, for example lab notebooks or other R&D reporting documents.

The distribution of benefit of *foreground* among the project partners can be structured in many ways. When contributions are made by various partners on an equal footing, the logical outcome of this joint effort leading to *foreground*, is joint benefit of that *foreground*. Joint benefit may for example be reached by joint ownership, or by sole ownership in combination with granting access rights (possibly in the form of a 'license'), or by transferring the *foreground* to a separate legal entity in which the participants hold (equal) shares, which entity grants access to its shareholders to this *foreground*. The (dis)advantages of these ownership options will be discussed in more detail in further chapters.

The rules for protection of *background* and *foreground* should further the goal of the LHPs: i.e. evaluation and validation of hydrogen and fuel cell technology in road transport. This goal is served by unfettered sharing of *background* and *foreground* among the projects partners. A prerequisite for such unfettered sharing is adequate protection of *background* and *foreground*.

It was argued above that protection of *background* consists mainly of limiting access to it, i.e. imposing secrecy and/or limitations upon those having had access to it. Protection of *background* serves primarily the interest of the owner of the *background*, but ultimately also the interest of the projects because adequate protection promotes sharing of *background*.

Protection of *foreground* is less self-evident because it does not exist at the outset of the projects. Drawing from the assumption that was deducted above on ownership, i.e. that partners should jointly benefit from the generated *foreground*, irrespective of the legal title to *foreground*, several options can be elaborated that could provide adequate protection of *foreground*:

- **All *foreground* may be kept secret by confidentiality obligations between the project partners; or**
- **Some of the *foreground* may be designated to apply patents for.**

Which option should be chosen may be depend on the case at hand and the partner(s) involved, without setting a general rule as regards the mode of protection from the outset. However, the general high-level rule could be proposed to the participants that *foreground* must be adequately protected, leaving the mode of protection to the participants themselves.

In general it can be imagined that publication of foreground and accompanying patent protection is more common in market situations in which the patentee has no company activity other than R&D, or has no real competitors, at least not on the market to which the patented invention relates. In this latter situation the patentee is likely to license out the patented technology. By contrast, in a highly competitive market, parties will be inclined to keep more foreground confidential because the confidentiality may represent a competitive advantage.

In the LHPs, the IP that will be generated and would be eligible for copyright or database right protection, this IP by operation of law (i.e. automatically) will be protected, i.e. the participants do not have to actively protect such IP, except when they, additionally, want to keep this IP secret. Only in the case of inventions, it needs to be decided whether patents are applied for these, because applying for a patent for a technological development requires public dissemination of the relevant technology.

4.3 Summary and conclusions IP and IP protection

For the purposes of the previous analysis, the IP and IPR relevant to the projects were divided into *background* and *foreground* in accordance also with the stipulations and the legal framework of FP7.

In the context of the LHPs, two IP issues appeared to be of paramount importance in the collaboration between the project participants. These are access to (secret) data (either *background* or *foreground*) and ownership of *foreground*.

5 IPR RULES TO BE USED IN CONSORTIUM AGREEMENTS

5.1 Ownership of IP

Ownership of *background* is no complicated issue, as *background* is owned by the respective projects participants and there is no compelling reason, nor, probably, the willingness of the projects participants to change that situation. However, ownership of *foreground* is an issue that will have to be decided and agreed upon by the partners.

In general, and notwithstanding any other agreements, ownership of IP starts with natural persons. The persons actually inventing technology, designing tests and demonstration protocols and writing reports will in principle be entitled to own the resulting IP rights. However, there are many exceptions and complex legal mechanisms that are applicable in different Members states and national jurisdictions on this issue. One example regards the question whether the natural person/employee is entitled to IPR resulting from his/her work or the employer or commissioner of the person/employee. As the participants to the projects are spread across several different Member states, it is not easy to propose or recommend a specific set of rules governing this situation, which would fit every participant's situation. However, it may also not be necessary because the participants in the projects

- **(i) usually will have legally structured their relationships with their employees in such a way that ownership of all *foreground* of their employees is transferred to the employer;**
- **(ii) may be obliged to warrant vis-à-vis the other stakeholders in the projects that they themselves are the owner of all *foreground*.**

The type of agreements that would need to be in place to distribute ownership between the project participants depends heavily on the legal framework encompassing the projects. If the projects are executed within the framework of a multilateral agreement between all participants, ownership will be governed by such agreement. If the natural persons actually working on the projects are employed by the participants, the *foreground* will, as we assumed above by operation of law or contract, remain with the participants. If individuals from several participants generate *foreground* jointly, their employers will likely jointly own that *foreground.* If the projects are executed in a separate legal entity, and the individuals perform their project related tasks under the guidance and responsibility of that legal entity, this legal entity will under the laws of most Member States be entitled to that *foreground.*

5.2 Issues involved in existing IP policies

5.2.1 Complexity of arrangements can be a burden

The IP policies are based on principles of fairness and transparency and provide a substantial number of tools to deal with certain problems. Especially the FP7 policy attempts to ensure a balanced approach. However, the major issue when applying the existing IP policies is the complexity they create when implemented. Although the principles upon which the existing IP rules are based are sound, applying such rules effectively and in a strict manner may require much effort and discipline of the consortium partners.

The creation, application and administration of individual agreements between the participants and the consortium or between participants create a significant burden. This burden will fall upon the consortium. The large numbers of agreements, which need to be in place, can be time consuming to reach consensus and will need to be administrated. Especially when individual participants agree to different regimes, the requirements related to approval or objection rights may become extremely complex. A complex contractual IPR regime reduces flexibility due to the time it would take reach consensus on a specific arrangement that could serve to meet a new challenge arising during the project realisation. Especially considering that the project involves technology in various highly active fields of technology -some of which are subject to strict regulation by public law - the consortium must dispose of those contractual mechanisms that could provide provide "flexible" and swift responses to problems it might be faced with.

The large number of participants could heavily hamper the project realisation if roles, rights & obligations are not appropriately and clearly identified and regulated from the very beginning; for example, with regards to day-to-day operations, the relationship between existing participants but also in ensuring the follow up projects of local projects with third parties. Especially since local projects are likely to be with public entities and will therefore involve matters of public law. If specific arrangements involving *foreground* in such a local project would require the approval of even a limited number of participants, the possibility of reaching a (timely) agreement are quite low, i.e. it may take a long time to reach agreement on *foreground* by even a small number of parties, which could impede swift execution of projects.

5.2.2 Issues related to specific IP rights are not resolved

The IPR policies mentioned in 2.4 above do not differentiate between the various types of IP rights, thus the participants are requested to specify on an individual level how they wish to deal with the various types of rights, which may arise. For example mandatory national IPR rules are not addressed by the policies. Only patents receive some attention and trademarks are mentioned in the Guide

to the Intellectual Property Rules for FP7 projects. This forces the participants to draft extensive agreements, which either cover every likely contingency or require redrafting when an unforeseen issue comes up, either way a time consuming and complex process.

"Know-how" can be a more crucial issue to address. As know-how can only be protected by secrecy, the protection is best served by limiting the number of parties, which have access to this. Secondly, know-how can never be "unlearned"; therefore the *foreground*, which a participant generates in the form of know-how, will always provide its organization with a benefit/competitive advantage, even if it thereafter transfers this know-how to the consortium. Thirdly, violations of confidentiality agreements are difficult to prove and there is virtually no adequate redress for such a breach. The best way to effectively pursue limited access to data is to put heavy consequences on breach of confidentiality obligations, of which high penalties (often into the millions of euros per breach) are the obvious example.

Joint ownership of IP rights is identified as an important issue. Nevertheless this up to the project partners to determine. Considering the complex nature of such issues either the parties need to agree to a specific regime beforehand, which will take a significant amount of time if all parties need to agree; or if left open, it might create friction and mistrust among project partners, which may result in equally time consuming litigation.

The right to object to transfer and or licensing of IP may not be sufficient in certain cases to actually prevent the transfer or licensing. In a number of EU member states the transfer of property by the proprietor to a third party cannot be revoked because of the mere obligation of the proprietor not to transfer the property. Violation of the obligation is likely to result in damages to be reconstituted in court. However financial recompensation is insufficient redress considering the interests involved.

5.2.3 Transparency is difficult to ensure

The complexity reduces transparency and may damage confidence in the consortium. The participants will need to have confidence that none of the others has a more favourable arrangement than the other. Even if existing agreements are shared, a regime whereby the participants must agree provides loopholes to avoid such an obligation. The existence of additional agreements between selected participants, albeit theoretical, cannot be excluded by the participants. This may result in a more reserved attitude on their part.

As the rights are intended to accrue to the participants, their willingness to carry out their obligation to share the date produced is paramount. Although the obligation exists to do so, it is practically impossible for the other participants to verify whether the entire *foreground* is shared or only a selected part thereof.

6 LEGAL FORMS OF PROJECT COLLABORATION

6.1 Introduction

Project collaboration can be set up in different legal ways.
First of all, project partners can opt for a collaboration model on a pure contractual basis. In such model the project partners enter into a consortium/joint venture agreement, which agreement contains the rights and obligations of the various project partners vis-à-vis each other. In such collaboration form no SLE shall be incorporated.

Second, a separate legal entity (usually in the form of a limited liability company) can be incorporated. The project partners shall be the shareholders/ stakeholders of such SLE. The SLE contains the management structure that runs the SLE, inter alia taking care of the desired collaboration among the project partners.

Third, a hybrid form containing both elements of the consortium/joint venture model and the SLE model can be created. Such hybrid form can have the form of a limited liability partnership or similar legal form. It consists of a consortium or joint venture entity, formed by its founding SLE's and –depending on the national law of the relevant Member State, being a separate legal entity itself with separate liability.

In the next paragraph the various types of collaboration models with or without SLE and limited liability shall be briefly discussed.

6.2 Consortium / Joint Ventures without SLE

The project partners co-operate on a contractual basis, creating some sort of consortium, partnership or joint venture. Such consortium, partnership or joint venture does not have a separate legal entity. For tax purposes such legal form usually is tax transparent. The management structure of a consortium/joint venture should be arranged for in the contract between the participating partners and the stakeholders. On one hand, this provides the parties involved with more freedom to establish their desired management form. On the other hand, there shall be less statutory law to enforce such forms. Also, the consortium partners might become personally liable for any costs or liabilities of the consortium/partnership/joint venture.

6.3 SLE's

SLE's can have the form of:

(i) an European company,

(ii) an European Co-operative society with limited (or even excluded) liability,

(iii) a joint undertaking pursuant to articles 171 and 172 of the EC Treaty or

(iv) any other type of limited liability company recognized by the relevant Member State(s), such as but not limited to the International Non-Profit Association (INPA) under Belgium law.

6.3.1 European Company (SE)

A SE is the EU format of a limited liability company. It may be established in four different ways involving existing companies or subsidiaries from at least two different member states. The minimum capital requirement is Euro 120,000. A SE is governed by the laws of the Member State in which it has its principle place of business. The creation of a SE requires negotiations on the involvement of employees with a body representing all employees of the companies concerned.

6.3.2 European Co-Operative Society ("SCE")

A SCE is a legal entity that allows its members (physical persons or legal entities) to carry out certain activities in common, while at the same time preserving their independence. A SCE can be well instituted in order to access markets, achieve economies of scale or undertake research or development activities. Members of an SCE will normally be customers or suppliers and will be directly and personally involved in the activities and the management of the SCE. An SCE must have as its principal object the satisfaction of its members' needs and/or the development of their economic and social activities, and not the remuneration of a capital investment. A SCE therefore is well suited as a not-for-profit company. The members/founders of a SCE must originate from more than one Member State.

6.3.3 Joint Undertaking ("JU")

A joint undertaking is especially designed for the execution of European Community research and demonstration programs and therefore would suit well for HFC road transport techs demonstration project purposes. A joint undertaking has legal personality, conferred by a European Council decision with qualified majority, following a proposal by the European Commission and consultation of the European Parliament and the Economic and Social Committee.

6.3.4 Belgium INPA

An INPA is an international non- profit association with legal personality. Besides the requirement that the seat of an INPA must be located in Belgium, there are no further national requirements to incorporate an INPA. An INPA can be estab-

lished by both foreign and Belgian physical persons and legal entities and can have both Belgian and foreign directors and managers. The Belgian Ministry of Justice can grant legal personality to the association and formally recognize it as an INPA. The INPA can own assets, enter into contracts and act as plaintiff or defendant in legal proceedings.

6.4 Overview of advantages and disadvantages different legal forms

Table [...] . Features of a consortium/partnership/joint venture (contractual basis).

Topic	Pros	Cons
1.Liability	-	Potential liability of stakeholders
2. Ownership of assets	Each stakeholder can participate with required stake (assets, services, time spent, financing etc).	Potentially unclear which party has the legal title to what assets after 10 years and which party shall have the legal title to any assets created by/during the joint venture. Dependency on stakeholders to vest/license relevant intellectual property rights and to enforce the same to third parties
3. Taxation	Tax transparent to stakeholders	-
4. Management structure	More freedom to establish desired management form	Less statutory law available to enforce such management form
5. Governing law	Choice of law and forum possible	Uncertainty whether in all involved Member States choice of law and forum shall be respected
6. Branches/ Subsidiaries	-	Consortium/partnership/joint venture cannot establish branches/subsidiaries

Table [...] Features of a legal entity with limited liability.

Topic	Pros	Cons
1.Liability	No liability of stakeholders	-
2. Ownership	Entity to own or lease its assets; to vest its intellectual property rights and to enforce the same	-
3. Taxation	Taxation at level entity	-
4. Management structure	Statutory law available to enforce such management form	Less freedom to establish desired management form
5. Governing law	Mandatory rules on law and forum	No choice of law and forum possible, as mandatory (national) law of the relevant Member State shall be applicable to legal entity
6.	Legal entity can establish	-

Branches/subsidiaries	**branches/subsidiaries (such as Brussels (JTI) office)**	

We further refer to the Final Report "Development of Hydrogen and Fuel Cell Technologies in Large-Scale Lighthouse project, dated July 2006, AF Sweden, coordinated by F.X. Söldner, pages 58-62.

7 LEGAL STRUCTURE IN WHICH TO USE THE IPR RULES

7.1 Introduction

In the previous chapter 6, several alternative legal forms for the collaboration between the participants within the framework of the projects were presented. They were divided into legal forms with and without a separate legal entity ("SLE"). Benefits and disadvantages were listed for each form as regards liability, ownership of assets, taxation, management structure, governing law and the possibility to establish branches or subsidiaries.

In the following, the benefits and disadvantages of various legal forms for the protection of IP will be discussed and listed. This discussion will lead to several recommendations for legal forms in which the participants could collaborate under the projects from the viewpoint of optimal protection of the IP relevant to the projects.

As was concluded earlier, the appropriate protection of IP within the projects rests upon agreement between the participants in adopting certain ground rules for adequate protection. These ground rules may be filled in by the participants in separate agreements. From a strictly legal protection point of view, it is immaterial in what legal form the collaboration is cast between the parties. However, practical considerations like

- **(i) management and transparency of IP portfolio,**
- **(ii) the duration of the projects,**
- **(iii) continuity of the projects and/or its continuation in follow-up projects with the same participants and**
- **(iv) liability,**

may favour the choice for a specific legal structure.

7.2 Legal forms without SLE: consortium / joint venture

The joint venture collaboration form is in essence an agreement between the relevant participants, either in the form of bi- or multilateral agreements, setting out the rules for collaboration and protection of IP.

From the viewpoint of management and transparency or IP this form could be problematic, unless very specific rules regarding managing IP are prescribed for all participants and are implemented in all agreements between the participants. However, if the participants exercise their freedom to conclude separate agreements and further agreements with each other, the structure of the collaboration may become non-transparent and difficult to manage. In order to avoid this, a set of contractual terms could be imposed on all participants to the project. If

the projects are of short duration, this may be feasible and lack of transparency may be manageable, but if the projects are lengthy and may be followed up by further projects, an imposed contractual framework may prove inflexible. This in turn could give rise to the need for amended or further agreements, which could in turn cause the IP portfolio of the projects difficult to manage.

A further disadvantage is that ownership of newly developed IP (*foreground*) may be unclear. Especially in multilateral (cross-border) contractual collaboration, it is not always easy to determine who should be the owner of *foreground*. Complicated joint ownership issues may arise and the corresponding difficulty of managing the *foreground* if it is owned by several participants, certainly if they are from different Member States. For example, if an invention is jointly made or a report is a result of joint effort, title to the material and the resulting IPR may be held by several participants, which may not always be in agreement whether this material should be disseminated among the participants, among the public or whether patents should be applied for.

As regards liability the non-SLE collaboration may not be transparent. In the course of the projects the participants may engage in joint activities that may infringe third parties' IPR. In a multilateral contractual framework it may be difficult to determine who is liable in this respect, and there may be difference of opinion as regards who is responsible for a possible IPR infringement claim and who should carry liability. This may result in a delayed and/or inadequate response, which could in turn lead to the situation in which third parties may enforce their IPR against projects activities.

7.3 Legal forms with SLE

When a project is of long duration and certain participants may terminate the collaboration and others may join over time, a SLE has distinct advantages. In the following, the assumption is made that all projects activities are - in a legal sense - performed under the responsibility of the SLE.

First of all, all IP that is generated during the projects (the *foreground*) may be transferred to the SLE insofar as it would by operation of law rest with the participant at issue. If the SLE employs individuals that contribute to the projects by generating *foreground*, the relevant IPR will usually (subject to local difference in the Member states) rest with the SLE.

Management of *foreground* can thus be centralized and incorporated in the management structure of the SLE. There is little risk of lack of transparency of the *foreground* portfolio. Furthermore, there can be no doubts, and therefore no disputes, about the ownership of the *foreground*.

The conditions for access of projects participants to *foreground*, and the access of the SLE to *background* (owned by the participants) may be governed by uniform license agreements between the respective participants and the SLE. Access of the participants to each other's *background* may be governed by a uni-

form shareholders agreement (if the legal form is limited liability company), but it may also be governed by the SLE-participant license agreement, which could provide that the SLE that has been given access to *background* of a participant, may sub-license this right to the other participants. In principle, a collaboration in the SLE form, would only require one uniform set of terms and conditions governing the relationship between each respective participant and the SLE, and a shareholders agreement governing management of the SLE. This reduces complexity and increases transparency, which is a clear benefit in the case of many projects participants.

As regards liability for infringement of third party IPR, the SLE option is beneficial. If a third party claims that any projects activities infringe its IPR, it will be the SLE that is liable, because legally all projects activities will be deployed by the SLE. Thereby disagreement or the question of who should respond to such claims is avoided. The management of the SLE should be able to respond effectively and timely to settle any claims or in any event see to it that projects activities may be continued.

To ensure that in the event of third party IPR claims, ownership of *foreground* and access to *background* remains undisturbed, it would be beneficial to let *foreground* and access rights to *background* be owned by a second SLE, a holding company. In the event of enforcement of third party IPR infringement claims against the first SLE, continuing availability of *foreground* to, and access to *background* by the participants to the projects would be ensured.

Apart from the advantages for managing (ownership of) IP(R) and liability, a separate legal entity provides for:

- **easy accession by new members, and for easy resignation if desired;**
- **clarity as regards the law that applies to the articles of incorporation of the entity, and optionally shareholders agreements;**
- **transparency of the EC funding process; the EC provides funding only to the entity.**

7.4 Proposed structures for SLE

Once the option is chosen to establish an SLE to be involved in the HFC road transport techs demonstration projects, the next question is what its role will be among the project partners. In principle, EU law, or the applicable law in the respective Member States, on incorporating legal entities will limit the possibilities. However, corporate law in the Member States is largely uniform, whether in form or in substance. So a management board (and a supervisory board, or as the case may be, a one tier board with executives and non-executives) comprising delegates from all project partners, which partners are shareholders in the SLE, steering an amount of operational organs of the entity responsible for execution of certain tasks will be the obvious model.

What the tasks of the SLE will be depends on the degree of centralisation needed and desired, which in turn depends on many factors among which the magnitude and duration of the collaboration.

In order to exemplify the above, three structures involving SLE's in growing degrees of centralisation are proposed in Annex 1. The option 1 is fit to a short-term relatively small collaboration. The most important issues arising in the projects, as concluded above, were access to (confidential) data, ownership of IP(R) and compliance with local mandatory rules. It is obvious therefore that the "minimum option" requires only addressing those issues in the most narrow sense, leaving project execution and ownership itself with the project partners concerned. So the SLE will process data from the project partners and will provide it to the other partners in a form that minimizes the concerns that were raised in this report.

In a further reaching option (option 2), the project partners provide access to all of their *background* and *foreground* to the SLE, either by licensing or by ownership transfer or a combination of both. The SLE can then (sub)license the *background* and *foreground* to the other project partners.

In an even more centralized model, option 3, the projects themselves are executed by and under the legal responsibility of the SLE. In doing so, the operations SLE may use resources made available to it by the project partners via an outsourcing model. This option 3 is the preferred collaboration model for long-term stable collaborations involving some degree of commercialization of the technologies involved. Because the project execution is done by an SLE, ownership of IP(R) is a task assigned to a holding company. This is a common structure in operations of private companies. The operations SLE, by being responsible for project execution, may be exposed to liabilities more than the SLE's in option 1 and 2, simply because the latter SLE's perform no operational activities in the outside world (i.e. outside the circle of the project partners).

In all options, the appropriate IP(R) rules, licenses, restrictions, confidentiality rules, etc. will be contained in shareholders agreements.