**Intellectual Property Allocation & Valuation for Innovation Alliances**

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**Introduction**

Every innovation alliance must generate some form of intellectual property that directly or indirectly achieves all the stakeholder objectives. The correct design of intellectual property production, allocation and valuation is key to a successful collaboration. This white paper explains the fundamentals of StarNet’s approach to intellectual property definitions, allocation and valuation for R&D collaborations.

**Background**

The spring of 1993 saw feverish activity within the US Department of Defense as a surge of advanced information systems began to permeate every corner of the organization. Even more powerful was the emergence of a small group of computer-to-computer networks that had built a commercial web of electronic communication on top of the DOD’s ARPA-Net. As DOD planners began to scour their supply chain and US semiconductor firms for the most advanced capabilities and came upon a startling discovery: the most advanced semiconductor R&D was led by the Japanese and the Dutch. While both countries were political allies, they were economic competitors and subject to internal dynamics that might leave the US lagging behind in information systems.

A meeting of semiconductor firm CEO’s was hastily called by Dr. Bruce Merrifield, Under Secretary for Advanced Technology at the Department of Commerce. What emerged from the meeting was a somber conclusion: no US firm alone could match the international competitors, nor were the firms in negotiations to consider joint ventures.

Dr. Merrifield proposed a unique idea: form an R&D partnership of all US firms and the Department of Defense. Pool financial and intellectual capital resources, and chart a path for IP breakthroughs necessary to keep the US in the lead of semiconductor innovation. From that meeting emerged a major change in US policy: the removal of anti-trust damages for collaboration R&D among commercial firms. This policy change shifted almost 100 years of US policy, to reflect the reality that firms compete by innovation as well as price…and sometimes need collaborative innovation.

Collaborative R&D now accounts for one-third of corporate innovation expenditures [1] and is an increasing component of non-profit research organizations.
(universities, government laboratories and consortia). The collaborations take many forms: supplier technology agreements, joint ventures, two party partnerships, public/private partnerships, consortia and multi-party partnerships. All of these collaborations are one form or another of “alliance” and each has a strategic objective of "innovation”. We call the collective “innovation alliances.

**Need: IP Design for Innovation Alliances**

There is a fundamental contradiction in considering collaborative R&D to fill the innovation pipeline of any given commercial firm: firms compete through innovation and protection of intellectual property (IP), but some innovation is so costly and complex it requires collaboration. How to resolve this?

**What: IP Experts Participating in Innovation Alliance Design**

A growing cadre of specialists that combine innovation alliance skills with IP expertise are creating “designs” that can carefully produce valuable IP while protecting competitive inputs of contributors. This combination brings the discipline of intellectual property closer to the field of organizational design for R&D management. The outcome of this design process produces the following outcomes:

**Primary**
- IP creation and allocation map to meet participant needs
- Inventory of intellectual property needs of all participants
- Inventory of potential intellectual property to be created and/or acquired

**Secondary**
- Categorization of intellectual property by type: patents, copyrights, data-rights, trademark
- Categorization of intellectual property by degree of distribution: public, group shared, and proprietary
- Allocation of intellectual property by participant
- Protection of intellectual property: background, contributed, new
- Outline of statues invoked for IP creation and allocation: e.g. IP ownership claim; Federal IP guidelines; relevant state (university) guidelines; FOIA exemption for cost-shared IP distribution in public domain
- Guidelines for releasing IP in public domain
- Guidelines for joint IP claims
- Guidelines for intra-alliance licensing of proprietary IP
- Guidelines for purchase of IP rights by new or non-members
- Guidelines for publication of thesis containing limited distribution information created by the alliance
How: IP design for Innovation Alliances

The Innovation alliances IP design concept creates a structure of ownership rights and potential claims that provide for 1) private firms to commercialize results, 2) Government organizations to utilize IP for mission purposes only and 3) universities to both generate commercially relevant theses and commercialize IP.

The IP creation model provides for three levels of:

- **Broad technical guidelines** released into the public domain to create standards and certification paths, that lay the foundation for broad commercialization
- **Shared concepts of operations (ConOps) and systems architectures** shared only among the members to create multiple product configurations and provide guidance to downstream suppliers and
- **Specific patents, copyrights and data-rights** to satisfy individual organization needs by being commercialized by participants or traded among the membership during a five year, FOIA exemption period.

How: IP Allocation

The IP allocation model is based on input from leading stakeholders that launch the alliance. The initial design is captured in appendices of the alliance legal agreement, and can be modified only by vote of a governing board of directors elected from among the membership. This assures an allocation meets the needs of all participants. A common allocation model is:

- **Broad technical guidelines**- No allocation limitations. These guidelines are promoted by alliance membership at standards-setting organizations and certification groups.
- **Concepts of operation and systems architectures**- Allocated to all alliance members, but withheld from public distribution for up to five years
- **Patents and copyrights**- Allocated to specific members individually or on a joint-and-several basis, depending on contribution levels.

The Federal government participants are allocated a fully paid, irrevocable fully use license on all IP. However, the Federal license usage terms provide for penalties if any Federal contractor uses a Federal license to attempt commercial competition with alliance members.

The IP allocation model is supplemented by market-making guidelines that provide for internal trading, buying and selling of individual IP among members.

The designation of IP for standards, systems architectures and individual ownership trading is established by mapping the potential stakeholder needs against a sample or hypothetical program/project design that reveals the options for specific IP creation.
How: The Process
The intellectual property creation and allocation design process includes 8 steps:

Step 1- Stakeholder Mapping- Create a list of the potential stakeholders, and describe their interests and cooperative capability according to six criteria: 1) strategic objectives, 2) desired technology outputs, 3) financial capacity, 4) partnership operational capacity, 5) cultural compatibility, 6) political interests and power.

Step 2- Stakeholder Strategic Objectives- Define the stakeholder strategic objectives in terms of desired public impact (e.g. economic, national policy), industry impact, private profit and academic/university advancement

Step 3- Stakeholder Output Objectives- Technologies, Industry Commercialization, Public Standards/Certification- Define examples of desired stakeholder outputs in terms of specific technologies, the scope of industry commercial impact and necessary standards & certification paths.

Step 4- Sample Program/Project Plan- Draft a hypothetical program or project plan based on publicly available symposia, trade association or working groups. Use standard PMI and pert charting methods to project a minimum 3 to 5 year plan period.

Step 5- IP Input and Output Mapping from Sample Program/Project Plan- Map the stakeholders against the project plan. Project out their interests in terms of 1) public standards, 2) shared systems architectures and 3) proprietary/competitive IP.

Step 6- IP Allocation Outline- Draft the IP principles that can be deduced from the input and output map to achieve the stakeholder objectives.

Step 7- IP Public, Gated versus Private Outline- Draft the IP strategic guidelines in terms of IP allocated for public, gated and private distribution

Step 8- Wildcard IP Issues List- Create a list of the wildcard IP claims that may arise, based on the premise that key stakeholders did not fully disclose their intent or their ownership claims during the negotiations.

Conclusion: Careful Design Yields Superior Results
The application of disciplined IP mapping, allocation and valuation to the innovation alliance design process yields IP that meets multiple stakeholder needs, whether they are commercial firms, government labs or state economic development units.
About Paul Masson
Paul Masson is Managing Director of Strategic Alliances Resources Network (StarNet, LLC) a consulting and management services network that specializes in organizing and operating R&D alliances. Paul has thirty years experience in banking, corporate finance management consulting, startup companies (project manager) and advisor to NASA. Each of these careers included hands-on experience in forming and operating innovation partnerships.

About Josette Ferrer
Josette Ferrer is the founder and a Managing Director of Clairent Advisors, where she assists clients with the valuation of closely held businesses and business interests, intangible assets, intellectual property, stock options, debt instruments, capital equipment, fixed assets, and other assets.

About StarNet LLC
StarNet, LLC is a management services firm that for 25 years has helped leaders design and manage R&D partnerships, consortia and alliances to meet specific innovation objectives. StarNet provides innovation managers with tools to organize collaborative innovation within and across organizational boundaries. StarNet, LLC is based in San Francisco, California and can be reached at 415-433-6412.