

# Business model 0.1

This model was built for <u>SENSORICA</u>, which is an open, decentralized and self-organizing value network, designing, producing and distributing optical fiber-based sensors.

# This version is closed. DO NOT EDIT THIS DOCUMENT! see Business model 2.0

To contribute to the business model of SENSORICA go to the version 2.0

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#### **Table of contents**

Goals

Background

Important considerations

Ontology of the mode

ntegration

Von-exclusivity

Open knowledge

Transparenc\

Rrand

Adding value

Revenue

Our value proposition

Transactions between SENSORICA active members and non-affiliate entities

Transactions between SENSORICA active members

Procedure

SENSORICA's legal forn

About the commons

Discussion

#### Other relevant documents

- Organizational Structure
- Value system
- A know-how economy
- Why patenting doesn't make economical sense anymore
- Road map v.3

# Goals

The purpose of this collaborative document is to have a constructive discussion around new business models that take into consideration the new economic environment.

# **Background**

As SENSORICA was forming in 2011, the founding group had some discussions about *value exchange models*. During a group meeting on March 23, 2011 we tried to converge on a legal form for our enterprise. We discussed the pros and cons of different legal forms, the corporation, the coop, and the LLP. Tibi presented a simple business model which constitutes the starting point of this model evolving here<sup>2</sup>.

# Important considerations

What defines the *new economic paradigm* and what constitutes the departure from capitalism and socialism, still in operation today?

#### Change

- The costs of peer-to-peer (p2p) communication and coordination have fallen dramatically.
- Very powerful tools for data and information analysis are now widely available, as well
  as tools for automated logistics.

#### New possibilities

- Communication and coordination is possible on a large scale, between individuals, one-to-many, as well as many-to-many.
- Almost anyone can develop rich relationships with other individuals across the planet.
  - These relationships can also take the form of collaboration,
    - which may lead to co-creation/production of value.
  - Value produced locally or through global (technology-mediated) collaboration can be exchanged on the **global market**.
- We have the tools to effectively coordinate very complex activities,
- We have the tools to filter and to structure the input of a very large number of individuals.

<sup>&</sup>lt;sup>1</sup> This model came to Tibi after a discussion with <u>Seb Paquet</u> a few days before. Tibi was struggling to pass a heavier model he had design earlier, the <u>Discovery Network</u>. Seb proposed to reduce that to the basics and start from there.

<sup>&</sup>lt;sup>2</sup> You can recover the initial model by accessing an earlier version of this document - see history

This leads to:

- the possibility to extract value from the long tai
- large scale dynamics
- very dynamic processes
- We have the possibility to collect vast amounts of data and information, to analyse, to reformat, and to redistribute it to a very large number of individuals **in real-time**.
  - This makes it possible to create strongly coupled social systems with strong positive feedback loops, which leads to sustainable self-structuring value networks.

#### Consequences (open to discussion!)

- Relations of power become unnecessary when effective means for p2p communication and coordination exist.
- Coordination reduces the need for heavy decision making mechanisms.
- Attraction replaces coercion to insure group cohesion and coherence.
- The notion of control becomes less important
- Decentralization becomes viable:
  - i.e. hierarchy is not the only form of organization capable of mass producing and distributing value on the global market;
  - decentralized networks have already demonstrated their capability.
- Openness and transparency stimulate growth, which engages large-scale dynamic effects.
- Knowledge is becoming abundant, know-how is scarce
  - Intellectual property loses its raison d'etre

#### Our model is based on extracting value from know-how rather than from knowledge itself.

[ Having the recipe doesn't mean you'll be able to bake the cake. Even if the local baker makes his recipe public, you'll still go to buy from him, most of the time, because it's more convenient, and more economical. Some people will start baking their own cake following his recipe, but that is not going to put the local baker out of business. ]

In fact, information and knowledge are becoming more abundant than ever, they are not scarcities anymore. Know how and capacity of production ARE scarce. People who make things are scarce. We are moving into a know how economy, NOT a knowledge economy!

SENSORICA is designed to become a large and dynamic pool of know how, by attracting talented and hardworking individuals from across the planet in search for a stimulating, empowering, humane, and an ethical work environment. Through open collaboration, SENSORICA bridges the world of haves with the world of have-nots, giving individuals with great potential access to resources, to contribute to the world's well being.

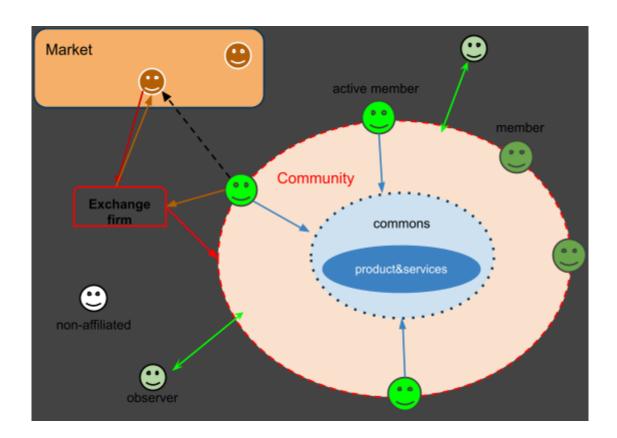
SENSORICA will also grow its capacity of production by aggregating unused capacity from the old economy. Manufacturers will be attracted by a hyper-innovative network, supplying a continuous stream of useful, high-quality, and ethical products.

We are building a self-structuring value network. This will allow SENSORICA to navigate through a rapidly-changing economic environment.

We are planing to reach a high state of creativity and productivity by putting in place a set of strong positive incentives and mechanisms for self-organization.

# Tibi's model

# Ontology of the model



The diagram above represents some important elements of the model.

The bottom right of the diagram is occupied with a big pink-red oval, representing the enterprise. This type of enterprise is better described as a community.

The brown rounded rectangle represents the **marke**t

In the middle, we have a full blue oval, representing the product (or a service).

The area of this **full blue oval** represents the **market** value of the product.

Around this **full blue oval** we have a ..... **blue oval** which represents the commons. This also represents the growth potential of the product, in its **market** value.

The **green** happy guys are all **active members** of the **community**. They all contribute to increase the value of the **product**.

The dark green guys are members.

The light green ones are observers.

The <u>Organizational Structure document</u> describes permissions and integration procedures for all these degrees of affiliation.

The **red** dome represents the **Exchange firm**, which is the medium of exchange of **exchange value** (or tangible value, or products/services) between SENSORICA and the **market**.

The **Exchange firm** is NOT involved in marketing, nor in sales. It is a neutral service provider, a non-profit, taking care of the logistics for billing and for the redistribution of revenue.

The information based on which the redistribution of revenue is calculated comes from the <u>value accounting system</u>, which is part of SENSORICA's infrastructure and is entirely under the control of SENSORICA's *active members*.

The **Exchange firm** has the role to guarantee a SENSORICA genuine **product**.

It does this by stamping every product with SENSORICA's logo.

The **Exchange firm** has the exclusive right to use/distribute SENSORICA's copyrighted logo.

The **first role** of the **Exchange firm** is to allow SENSORICA to be a global, open network of innovation, production, and distribution centered on the individual, creator and laborer (see SENSORICA's legal form section below).

The **second role** of the Exchange firm is to avoid concentration of power within SENSORICA. SENSORICA's **products** are created by its members and the exchange with the **market** must be performed in the name of the **community**, for the **community** Moreover, revenue must be fairly redistributed to all contributing members. If we give members the power to complete transactions with the **market** different problems might arise.

The **community** must know exactly the **market** value the **product** service is exchanged for. Members might be tempted to cheat for large deals and not disclose the full amount.

Without the Exchange firm some members can monopolize the interface with the market, through which they can gain disproportionate influence within the community.

The **third role** is to insure that SENSORICA's **products** and services meet the required quality and ethical standards.

The **fourth role** is to nurture the SENSORICA brand.

# Integration

The **community** has a very low entry barrier. In fact, anyone who promises to create a product or to increase the **market** value of an existing product can become an active member.

Offering a simple service, for example machining a mechanical piece from a 3D model made by an **active member**, is NOT considered a contribution that increases the **market** value of the **product**. Someone only offering these services is NOT eligible to become an **active member**.

Among active member we can find individuals with technical skills (hardware, software, optics, biology, etc.), individuals with business skills (marketing, accounting, community building), etc.

The <u>Organizational Structure document</u> describes permissions and integration procedures for all these degrees of affiliation.

# Non-exclusivity

All members can also conduct business outside the community.

# Open knowledge

The knowledge on which the **product** is built is open.

Knowledge is becoming abundant. One cannot extract value from something abundant. Know-how and capacity of production remain scarce, and this is where economic activity will concentrate.

Creating commons will also speed up innovation.

Commons is also a way of protection against defensive entities: public knowledge cannot be patented. Only hyper-innovative value networks will be able to survive in this environment.

See A know-how economy and Why patenting doesn't make economical sense anymore for more on the open knowledge issue.

# **Transparency**

Most processes within SENSORICA are in the open.

Overall, taking into consideration large scale effects within a strongly interconnected and well-coordinated world, transparency brings more advantages than closeness.

Transparency renders the **community** more dynamic. It increases the probability of participation: if others know what we do they can decide to join, to contribute. Less energy is spent looking for resources or communicating our needs.

Transparency also makes SENSORICA accountable. We believe this will have a positive impact on quality, as well as on ethics. SENSORICA's brand will be positively affected.

Transparency helps with customer relations. The customer has direct access to our processes and can follow a ticket/issue as it moves through the system. This also opens the possibility for the customer to intervene in the process at critical moments, avoiding costly mistakes caused by misunderstandings.

On the other side, transparency exposes SENSORICA to market loss. Loss cannot be entirely avoided. Even closed corporations leak and are unfairly beaten to **market**. SENSORICA counts on innovation speed and on its brand, which is rooted in quality, fairness, ethics...

# **Brand**

The **product** is exchanged under the **SENSORICA** brand, which belongs to the **community**. A group of members are responsible for defending the SENSORICA brand. The SENSORICA logo is copyrighted. Only genuine SENSORICA **products** can carry the SENSORICA logo on them; this is how one distinguishes a SENSORICA **product** from a clone.

A **genuine** SENSORICA **product** is one which is brought into existence through SENSORICA's processes, AND one that respects all SENSORICA's norms. The **product** must be approved by the SENSORICA **community**, taking into consideration quality, environmental issues, price, ethics, etc. Moreover, the **product** must be exchanged through the **Exchange firm**, which has the exclusive right to label a **product** as genuine, based on a consensus reached within SENSORICA. This is not about power, the **Exchange firm** merely acts mechanically according to the consensus built within SENSORICA. The exclusivity is granted to avoid the go-it-alone behavior.

Any **active member** of the **community** can commercialize the **product**, the exchange with the **market** must go through the **Exchange firm**.

# **Adding value**

There are two main sources of value for a **product** or a service (excluding emotional value and irrational desire). The first one stems from its functionality, from the need it satisfies, the problem it solves. The second one stems from the environment which produces this **product** or service, which translates in terms of quality, reliability, service, professionalism, continuity, innovation and production capacity, brand/image, ethics, etc. That leads to two major categories of contributors to the value of a **product**/service: those with technical skills, adding value directly to the **product**/service itself, and those with social, business, artistic, marketing skills, adding value to the **community** and to the brand.

An active member can add value to the product for different reasons:

- He wants to get a revenue in case the product containing his addition is exchanged on the market
- He is a user of the product and he ends up adding a valuable feature to it and decides
  to share this new features with the community. A consumer can become an active
  member.
- He already has something that fits into the product, adding value to it, and he simply donates it to the community.
- 4. He is passionate and doesn't necessarily expect a revenue (integration of the gift economy)<sup>3</sup>
- add other reasons..

An active member with business skills doesn't add value directly to the product, but to the community. His/her function may be:

- 1. to build a name for the community and for its products.
- to get the feedback form the market into the community.
- to find a consumer on the market and negotiate a deal.
- to make sure that the community is thriving, taking care of governance, conflict resolution, rituals, etc.
- 5 add other functions

<sup>&</sup>lt;sup>3</sup>See Integrating a gift economy within SENSORICA section in the <u>Value System</u> document.

## Revenue

Revenue is defined broadly. In this section we only deal with *tangible value* that comes into SENSORICA from the market, as a result of a product/service exchange. It can also come in the form of grants, from government for example, crowdfunding, or from members of SENSORICA.

Our revenue model revolves around extracting value from our collective know-how and capacity of production.

Active members don't receive a salary from the **community**. There are different ways to get rewarded.

- When a product is exchanged on the market and revenue is generated, members are rewarded in proportion to their contribution to the market value of the p or to other services offered during the transaction, or to the contribution made to find the t and to seal the deal, or to their contribution to increase the ity. In other words, members and active members don't cost value of the co anything to the **community** if they just sit idle (This allows SENSORICA to integrate a gift economy, to balance duty and passion). **Active members** are not compensated immediately for adding value to the product or to the c ity. Compensation comes only after a that contains their contribution is exchanged on the market. Before reaching roduct only represents value in potential. Active member are given a *"share"* , in **proportion⁴** to the contribution of the **active member** to the **market** value of roduct, which will be converted into a % of revenue. whenever a exchanged on the market
- 2. If a project gets funded through crowdfunding or a government grant of some kind. Funding can be used in part to purchase material, pay for necessary services, or to directly pay active members working on the project. We need to distinguish between active members who get a revenue during a project, before a product or service reaches the market, and those who don't, to allow a greater share of the pie (sweat equity) for those who don't [propose how].
- We can also think of a special fund used in special cases, for important opportunities, to rapidly acquire the needed skills to complete a project.
- Propose others.

## Our value proposition

<sup>&</sup>lt;sup>4</sup>See the Value System for more on this.

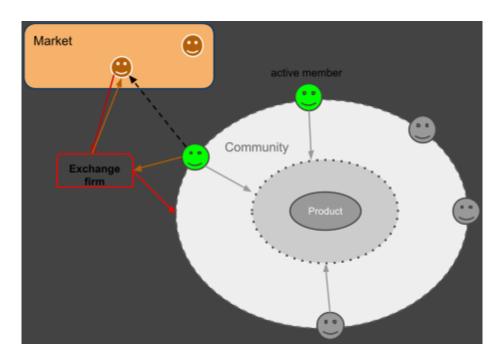
- **Low prices** by integrating open hardware and software and by adopting open and distributed manufacturing.
- Continuity by adopting open standards and open hardware and software.
- Ability to **customize** the product by adopting distributed manufacturing and by offering an open product.
- We offer high quality products, because they are designed by those who use them.
- We revolutionize service by being open, transparent, and by integrating optional remote monitoring into our products (see more on SENSORICA service systems).
- We are ethical, not just because we say it, but as a consequence of being open and transparent.
- We are a **humane** value network, decentralized, based on voluntary involvement, practicing contribution-based compensation.

See also SENSORICA Product Design Philosophy document.

See also Tibi's post <u>How to play the open game in the present and future economy</u> on Multitude Project.

# Transactions between SENSORICA active members and non-affiliate entities.

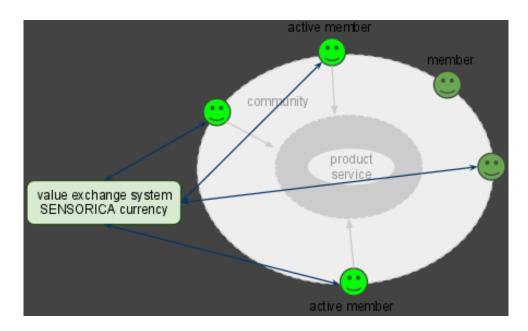
This transaction is of the type **supplier-customer**. The customer expects to receive a fully functional and guaranteed product or a service, with some additional services, free or not free of charge (ex. repairs, assistance for installation, training, etc.). The client has no obligations other than to pay for the product, and non-free services. The supplier, (active members of SENSORICA value network) must respect its obligations for repairs, supply of parts and consumables, assistance, training, etc.



The transaction is mediated by the **Exchange firm**. The product or service is exchanged in mainstream currencies according to market prices.

#### Transactions between SENSORICA active members.

These transactions can be many-to-many, i.e. can include more than two (active) members. The value exchanged is mediated by the *value exchange system*, a *SENSORICA currency*, which mitigates the complexity arising in complex transactions. Think of it as a complex, formal system of exchange of favors.



This value exchange system is NOT a simple barter system, it is rather a local/contextual currency.

**Definition**: an **object of exchange** (not necessarily tangible/material) is a complex of values that passes from one **active member** to another **active member**.

For example, one lab can offer technical expertise to another lab (one immaterial object), in exchange for samples (a material object). Or a lab offers authorship in a publication (immaterial object) in exchange of samples from another lab, and some expertise from yet another lab.

We are all acquainted with these sort of transactions, we perform them informally with our colleagues, but the SENSORICA currency facilitates a more complex exchange system.

#### **Procedure**

- Each active member states the general intention for engaging into a transaction.
- All objects of exchange are itemized, i.e. a list of values offered and needs, tangible and intangible, is made by each active member taking part in the transaction.

- Offers are matched with needs on the SENSORICA internal market.
- Some item values are monetary, others are not.
- In any case, in the initial stage quantifiable items are assigned a value in SENSORICA currency through a negotiation process. Non-tangible value items are in general not quantifiable, but they can play a role during the overall evaluation and can, during this process, even modify the evaluation of tangible assets. Non-tangible value items modulate tangible value and affect conditions of exchange.
- At the end of the transaction some active members will find themselves in the plus, others in the minus. Those who have more to offer than needs will be in the plus.
- Active members can keep their surplus in SENSORICA currency, or they can decide to cash it, to convert it in mainstream currency (\$).
- All active members can decide to exchange favors and resources in SENSORICA currency or in mainstream currency (\$), based on their individual needs and based on the trust they have in their partners. The role and reputation systems<sup>5</sup> plays an important role here.

#### The above procedure is still under debate.

#### from Patrick Anderson

==Intra-Owner Trade Agreement (IOTA)

As User you MAY:

0. Use this instance for any purpose

1. Modify this instance by renting or buying the physical sources

needed for that modification. (YOU ARE ALREADY A CO-OWNER IF YOU PAID

PRICE ABOVE COST.)

2. Copy this instance by renting or buying the physical sources

needed for that production. (YOU ARE ALREADY A CO-OWNER IF YOU PAID

PRICE ABOVE COST.)

3. Share this instance or a copy - whether modified or not.

If you share this object instance or a copy - whether modified or

not, you MUST:

A. Accompany each instance with a copy of this DEED.

B. Treat all profit gained through the sale of this object or

through the rental of physical sources as an investment from that user

toward more physical sources.

C. Issue GNUrho currency against those physical sources.

<sup>&</sup>lt;sup>5</sup>See more about roles and reputation systems <u>here</u>.

# SENSORICA's legal form

#### The legal form is not an easy question.

Sensorica can be understood as an open space for collaboration, OR as an infrastructure for communication, coordination, and collaboration, as a tool, NOT as a legal entity. We can also talk about the Sensorica group, which is a decentralized, value-based collaborative network of individuals, private organizations and academic organizations.

#### Members of Sensorica ARE legal entities AND tax payers.

This is important in order to allow Sensorica to spread across the globe, to be fluid, and also to allow it to interface with other similar networks (communities like open source software, open manufacturing and 3D printing), which, as we are starting to understand, are very important for SENSORICA to reduce the costs of our products, to insure continuity for our clients, etc.

What is important for a venture is to grow its **market** value, not how that value grows. We have the technology to take input from a wide base of contributors, to filter it, and to add it up coherently. Even if the input is very small, warth one hour of work, we still want it, because thousands of people are willing to give us that, and we want it all. The classical model takes in only large portions of value from a limited number of individuals, which are supposed to produce at their maximum capacity. With the new model we want to cast the net wide, to collect as much as we can. This is why Wikipedia surpassed in volume Britanica in only a few years! This model has already been demonstrated to be viable. **We cannot do that if we treat every member as an employee**. Members, by the hundreds, need to be able to come in and out of the network, as many times as they want, adding value to the **product** a bit at the time.

The internal structure of the group must be maintained flexible. Subgroups must form dynamically around projects and they can dissolve once the work is completed, to be recycled into other subgroups within the larger network. Because there is no formal status within the network, this reshuffling can take place spontaneously. The internal bureaucracy must be greatly diminished.

How is the compensation handled? An independent entity takes care of billing the customer on the market side, and of redistributing the income to every member, in proportion to their respective contributions. Let's call this entity the *Exchange firm*. Members declare their revenue in the country of their residence. The *Exchange firm* is not part of Sensorica, it only offers a service to the members of Sensorica group. We can create a non-profit to fulfill that role. If we create a legal classical form it will be harder to solve the income tax problem, and the logistics for paying contributors distributed all over the planet will become more complex.

Individuals can incorporate themselves. Corporations can become members of Sensorica network, as any other form of organization.

Can this be possible? I believe that our technology today, all these tools of communication coordination and automated logistics, allows such loose and flexible structures to maintain their coherence. The key concept is self-organization, set in motion by a powerful set of incentives, which can be created by communicating effectively and in real time the sources of value (rewards) and the system of flow of value, in and within the group.

If you want to harvest the planet this is, in my opinion, the only way around. Otherwise you go back to large chunks of value contributions from a limited number of individuals, concentrated mostly locally, and you missed the technological revolution boat.

We need legal agreements between members of some sort, firstly to grantee to contributors that they WILL BE paid (that's where the main insensitive are) and secondly, to secure our tangible assets. Members will have to disclose their full identity.

See also Open Capital and Open Corporate Partnership in If Not Global Capitalism - then What? by Chris Cook

# About the commons

SENSORICA is a commons-based production system.

See Value system - The commons

See also Rules related to the use and sharing of materials - Materials in the commons.

# Discussion

Please enter your comments here. Copy and paste text from above, and put it in *italic* if you comment on a specific paragraph. Make sure you identify yourself, either by choosing a color, or by adding you name next to you comments. You can always add comments directly on the text above, or below.

#### Comments

#### Francois wrote

#### li aroun

I totally agree with this structure. We act as individual entities bringing their skills to Sensorica on a volunteer way.

Just a note: when you earn more than 30 000\$ from an activity (your main job or another one) you must register as a self-employed worker. Then you must pay to the governmen the TPS and TVQ corresponding to your revenues. Think of it when Sensorica will sell around the world.

**Tibi**: Francois, can you please expand on this problem, if you think it is a problem... On my part, if SENSORICA remains a coordination tool, NOT a legal entity, there is no problem, because the burden to declare revenue falls on every member, be it individual or organization.

#### Steve wrote:

Wikipedia offers a comprehensive introduction to the key business types we have in the one chooses depends primarily on tax liability, legal liability, risk management, and Also, not all states offer the same variety of optional structures within the business types. For instance, an LLC can be formed and can operate in all 50 states, but an 🔼 can can only be formed in less than 20 states (Ohio isn't one of them!) although it can operate in all 50. Chris Cook offers a wide range of consistently insightful analyses of capitalism. economic systems, business structures, etc. through his research and writing. The issue rests on the definition of capital. Too often we interpret the term "capital" to mean 'financial capital." It's much more complex than that. and others at the have expanded the body of knowledge about (multiple capitals) in a series of publications entitled underwritten by grants from the Ford Foundation. While I realize these folks are not the only ones by any means to explore and contribute to this area of know-how, they do have direct experience working with groups in the process of figuring

out how to build, strengthen, and sustain their local economies and business ecosystems. They have translated that experience into a set of useful materials that practitioners can quickly apply in the work they do with other groups that want to move in this direction.

This concept of multiple capitals and ways of measuring wealth is key in the determination of the value derived by my affiliations. The value of my affiliations directly relate to my sustainability. My sustainability follows Maslow's Hierarchy of Needs with basic physiological and safety needs at the bottom leading to esteem and self-actualization at the very top.

Capitals measure wealth. They are also indicators of how well what I do results in my sustainability within the Hierarchy of Needs. The same can be said for the kinds of affiliations I have, be they networks, communities, or teams in a social sense, and as individual contracts, partnerships, corporations, or cooperatives from a business standpoint.

The value of a particular affiliative structure equals the amount I must invest of one or more types of capital I have control over that results in my sustainability at one or more levels of the Hierarchy of Needs.

When the evaluation of a particular affiliation is made by more than one person, the reliability of that evaluation rests on an agreement about the type of capital and the targeted level on the Hierarchy of Needs.

Many times people don't do this and wind up comparing apples to oranges or reducing it to an absurdity. I mention this because as this exchange gets deeper into an evaluation of Sensorica in terms of purpose, business structure, and impact, it is critical that the evaluators answer those two conditions: capital and need. Otherwise, this will result in an endless philosophical discussion not unlike Macbeth's statement, "...full of sound and fury, signifying nothing."

#### Bayle wrote:

This is great stuff, especially the pictures, thanks for writing it up. I added the word "exclusive" to the sentence "The *Exchange firm* has the exclusive right to use/distribute SENSORICA's copyrighted logo." (please remove if this was not intended).

One question: "The **second role** of the Exchange firm is to avoid concentration of power within SENSORICA. SENSORICA's **products** are created by its members and the exchange with the **market** must be performed in the name of the **community**, for the **community**. " seems to imply that community members are not allowed to individually manufacture a clone of a SENSORICA product and sell it and keep all of the revenue. However, the "open knowledge" part, which takes a stand against patents, seems to imply that community members are allowed to do that, as does the discussion of the power of the exchange firm to control the SENSORICA trademark. Which is it? Are community members allowed to essentially undercut/compete with the exchange firm, as long as they don't use the SENSORICA trademark/brand? Or are they prohibited from doing this (even if patents are eschewed other punishments could be applied; e.g. "if you

go around the exchange firm, we won't sue you for patent infringement, but we will be socially mad at you, and we will expel you from SENSORICA and stop paying you revenue shares")? (i don't know which of these is best, i just want it to be clear; or if this is still undecided, that should be clarified too).

Our current plan at PieTrust is as follows: DO use so-called intellectual property (since we are software, we plan to use our copyright monopoly, rather than patents, although we will have patents for defensive purposes), but only for a limited time (each release will become open source after ~2 years). During that time, PieTrust will have a monopoly on for-profit use of the work (however even during that time the source code will be online and not-for-profit use will be permitted by anyone). So, we're using the copyright laws as intended, but modified to be more sensible (2 years instead of 90, and "fair use" broadened to include personal and other not-for-profit use).

lbi: I remember this