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Introduction

In talks with many organizations wanting to start screen-to-screen care and services the question arises how the different elements of such a concept interconnect. Why cooperate with other organizations and with whom? What services should be supplied and for whom? Offer many services or start up with a few selected services? What's the technology position? What's the commercial relation?

To answer all of these questions a model is developed to determine and visualize the need of the client. It's not an attempt to describe the whole reality or solution but we attempt to structure decisions when designing or realizing projects fully focused on the client. The ultimate goal of those projects should be to facilitate clients in such a way that they can live independently in their own surroundings with a minimum of care.

The client and technology

The client is the centre of attention, every client is an individual, terms you often hear in combination with this type of projects. And yet we often search for a generic answer or solution based on the vision of the care or service providing organization as if there is client uniformity. Many organizations wonder how to offer screen-to-screen care and services, what will make people stay independently and longer in their own home. What will motivate people to participate in service and care-domotic projects?

Design and development of the VieDome concept and technology is based on an open platform and open toolbox concept, out of which every participant (both providers and clients) will select the tools they need fitting their role, needs or tasks. A lot of effort went into the individualization of the client specific solution.

In practice care and service providers feel this complicates the realization of projects. In their view a great number of possibilities will lead to a loss of overview and too hard to structure projects. That's the reason why many organizations often choose to provide a limited number of services and to strip the technology to a level that fits exactly to the number and type of services one wants to provide. If the client requests to expand the number of services at a later stage, the provider when realizing his request often encounters organizational and technical limitations as a result of this minimizing and simplifying of the system.

The VieDome open platform and open toolbox overcomes this problem with a system in which every service can be chosen independently from other services. Thereby the VieDome platform is able to combine services and technology which are provided by third parties. Thus with VieDome it's easy for organizations and clients to start with a limited number of services and to expand later without encountering technical problems or limitations.

In a number of screen-to-screen projects in the Netherlands, targeting prolonged independent living at home, we discovered that acceptance of the provided technology and services by the client in his own surroundings is a critical success factor. Acceptance doesn't only mean accepting the implementation of the technology in the residence but the technology and the services must become part of the daily routine of the client. A device or service that is seldom used doesn't add value to either living or wellness of the resident. Even so, residents will lose track of the presence of the technological aid available to them, let alone they will remember how to operate it. Therefore it's of great importance that services and supporting technology get a place in the daily life and residence of the client. The client stays accustomed to the use of system and services and he looks upon it as added valuable to his life.

Staying at your own residence is a sum of your needs

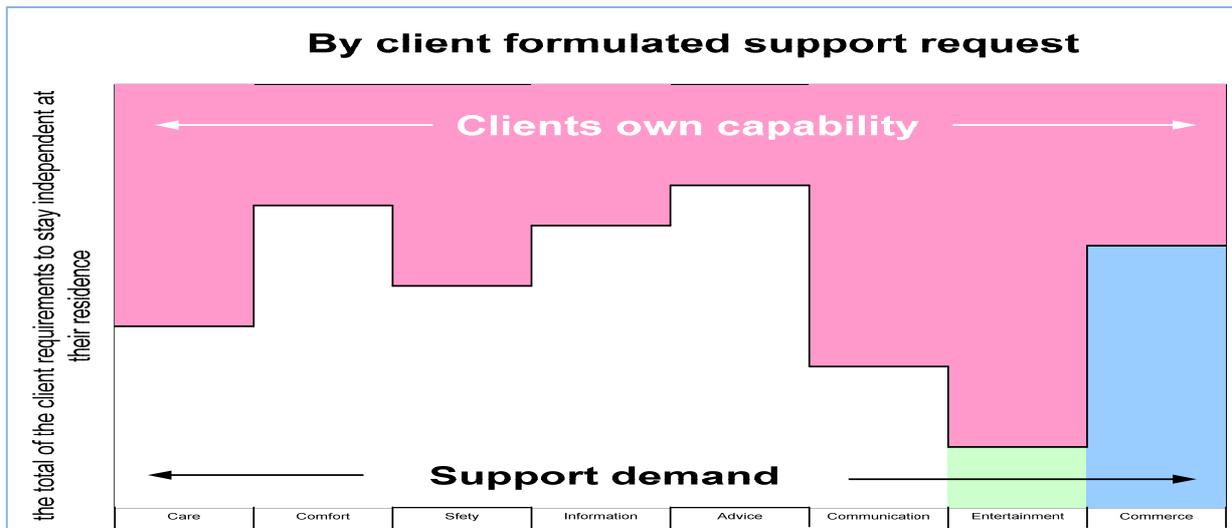
The question is; what determines whether someone is able to keep on living independently. Starting point in this model is that in order for the client to keep living independently, as an analogy to the model of Maslow, an essential number of needs and requirements must be provided. These needs or requirements need to focus specific on functioning independent or at least support the feeling and perception of the capability to do so. These needs and requirement originate in different areas such as, physical wellbeing, care, security and safety, comfort, entertainment, communication, social context, social connection, recognition, etc...

Younger people living independently can fulfill these needs and requirements themselves. But as you grow older or acquire a disability it becomes impossible to fulfill all these needs yourself. You will need help or assistance. This can be assistance in different areas. Traditionally we then presume people will need care, but what we are learning at this moment is that a large number of elderly stay reasonably vital and with the help of require of some services care will be needed at a much later stage. Within a swift growing part of the elderly community negative association is forming in connection to care as a result of the negative press on some nursing homes. Large numbers of elderly want to stay vital and independent!

When searching for participants in the WSG Geldrop-Mierlo (an assisted living service community in the town of Geldrop-Mierlo in the Netherlands). 2200 elderly, known to at least one of the project partners (care and social assistance providers) were invited by mail. Apart from this, two adverts were placed in local door-to-door papers. In the end 550 people responded and enrolled for the information meeting. Of these people 30% were unknown to the participating organizations.

After the information meeting the elderly were asked if they wanted to be informed further and receive an offer to participate in the project. 160 persons confirmed to be interested in participating and when asked only 15% was interested in care services. 41% however were interested in services like information, advice and assistance. 12% were interested in communication services.

If we try to map the situation of an aging person it looks like the model presented below



From this model we can deduce that clients feel the need to obtain multiple dimensional assistance, so we can be sure that a one dimensional approach will not be successful. A successful project must offer services and technology that can fill a wide range of needs and requirements.

When asked a client will name a number of needs and requirements he has to live independently. Many times the needs and requirements a client names does not compare fully with his actual needs and requirements. This is because the perception a client has on his needs and requirements is influenced by a number of social and perceptual factors and his self image.

According to the Social Identity theory (Tajfel and Turner, 1979) we all strive to a positive self image. This self image doesn't only exist of our personal identity (e.g. I am patient, creative, etc..) but also our social identity (e.g. I am a physician, etc.). Social identity points to the group we identify with, together with emotional importance and values we connect to this group.

If a client searches for assistance by an independent service provider he will do so from his own view on his personal needs and requirements based on his self image in correlation with his social context. In practice it seems that in many cases requirements with low social gain, like care, will be valued much lower than needed in reality, just up to the moment the need, in this case the need for care, becomes apparent, for instance as a result of a fall in the bathroom or a different occurrence.

To attract clients to screen-to-screen projects and to service community projects in particular it's not important what service provider thinks is needed but the service package should offer what clients think what they might need. Even if the service provider knows that what's actually needed differs from the offered package.

To attract clients in this type of projects a specific marketing model is required. The marketing model of the parallel C's (Client solution, Cost to the client, Convenience and Communication) by Robert Lauterborn looks like a good model to use. In this model it is important that marketing a product should be looked upon from a consumer perspective. The idea behind it is not trying to market a product but to try and win over a client to relate and connect to you rather than to a product. The

parallel C's fit better to client related organizations, who will try to look at themselves through the eyes of the client.

The starting point of this marketing model is consumer solutions based on a attractive price and quality balance, with numerous selection opportunities targeted on different focus groups. Important is the client convenience and the reason to chose a service or product. The communication must offer clarity on service provisioning, the opportunity to ask questions and to offer ones suggestions or complaints on the solution. This way of communication and marketing must enhance technology acceptance. The client must feel recognized and involved. He must feel accepted in the social context of the users, in the screen-to-screen and service community.

The focus group of the VieDome project Heeze was mainly women over 80 years of age. Elderly who became pensioners before the personal computer was introduced. By communicating mainly through a newspaper among the clients and their family in which practical stories and tips was publicized lead to the involvement of the elderly. There also were bi-monthly meetings. On this was also reported in the newspaper. In the end the system and the services became a part of the community and at the opening there were sufficient candidates to demonstrate the system in their own residence to the local council members.

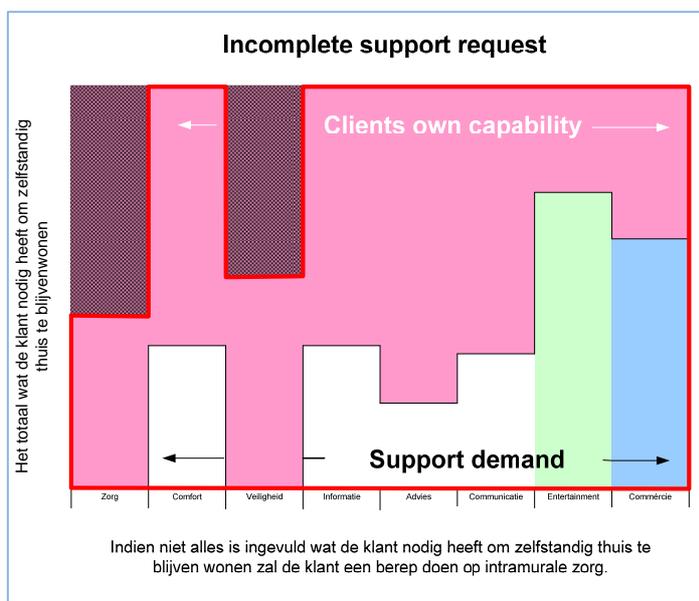
What do we need to offer?

If the model is correct and a client has fore filled all he needs to be able to keep on living independently, he will do so, than the starting point for screen-to-screen and service project should be based on support requests the client formulates.

If a client feels his capability is insufficient to fore fill some of his needs or requirements he will accept this to a certain extent, but if the gap is too large he will fall back on formal support. If this support is not available in his current residential environment, he will look to relocate to a residential environment that will meet his requirements.

Ideally support and service provision should offer the total scale of expected needs and requirements, because every client has his own profile and will look for personal support on specific terrain

in a required amount. By the offer provided the client can be triggered to participate in screen-to-screen and service support concept. The wider the range of the service provisioning package the more triggers it contains for the different focus groups to join the project.



The service provisioning package must offer a wide variety of services on different terrains. But the package of services offered must also offer the individual service at different levels as to provide the most fitting solution for each client.

In all VieDome projects the focus was on daily services or parts of the systems to be used on a daily basis. Examples are “good morning/good evening” service, the “good morning” button, day and night system state, etc.

An effect on the life pattern of the client is clearly noticeable. When using a good morning service with video the client will get up on time to be ready to talk to the “nurse”. With people who tend to lose their day-night rhythm we learned from experience that a good morning and good evening service is an important beacon in sustaining ones daily routines, even to hold on to one’s life pattern longer and doing so they can live independently.

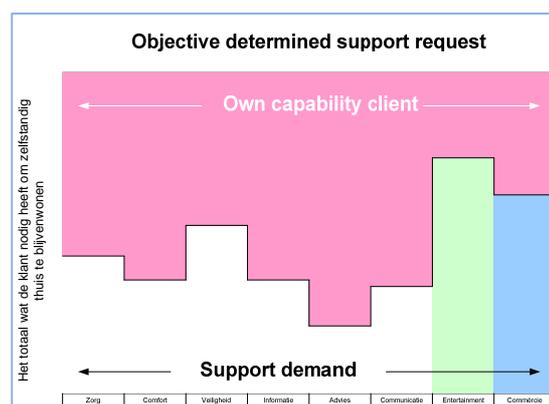
It should not be a package that either offers everything or nothing, the provided service should be easily adaptable to the specific demands of the client but even more it should offer a sliding scale of assistance to offer demand-controlled solutions. It should be easy to start with simple support requests that can be expanded if needed when growing older. This enhances the feel of vitality because you are not immediately confronted with the most extended version but you can start with the “light” version.

The services offered must cover the support request completely, because if the total spectrum of support is not covered the situation arises that the client will strive to obtain a different residential environment that will provide an answer to all possible requirements. Naturally there are limitations and a client will accept that not everything is possible, but the gap cannot be to big as stated before.

Apart from the fact that it is important the services concept covers the largest possible variety of scalable services to provide a sufficient amount of support request on as broad variety of assistance dimensions as possible, so the client is free to determine his own choice and selection, it is important that the services package contains “daily” services. It is important that the client uses the supporting services on a daily basis to enclose the service and with it the technology into his life pattern.

The actual needed services will differ from the expected one’s

In numerous projects focused on prolonged independent living the services provider and service client each have their own thoughts about what services will be needed. After the intake (the moment provider and client communicate with each other) it often seems that the services the client demands strongly differ from what the



provider expected or planned. There are many examples available.

A great number of experts in the Netherlands assumed that almost all elderly who want to keep living independently would have a strong need for home automation (turn on your lights with a remote control), but from experience in VieDome projects it looks like this is (although the most outspoken service) the least demanded support service of all.

Another example, many service providers think door video is only of importance in apartment buildings if the front door is out of the resident's sight. But in common practice it seems that with elderly people living alone in a residential estate it has a much higher contribution to their perception and feeling of safety than thought. The presence of door video seems in this situation (where the front door can be seen from the living room) unnecessary but it often it proves to be one of the most important reasons for people to decide to participate in a project.

A perfect example of how surprising choices elderly can make can be is the camera selection in VieDome project Aalst-Waalre. Here the service providers engaged in a monthly long discussion on privacy aspects on use of cameras in residences. The question was where to allow the use of cameras and how to provide the client the certainty their privacy was safe.

When later on in the project clients were asked where they wanted cameras to be placed in their residence, half of the participants went for a camera in the bathroom without any worries on privacy issues at all. Safety was the more important issue as the bathroom is for most residents the by far most dangerous place in their home.

Residents seem to experience privacy as trading relation. Because they have a two way video connection the trust in the nurse of service provider is so strong that this offers sufficient security towards safeguarding privacy. The privacy you have to give up is in balance with the feeling of security you get back.

Ideal project configuration

What is the meaning of all of these reflections on the configuration of screen-to-screen and service projects? Starting point for the projects to support prolonged independent living must be the client. In any case the client must be willing to actively participate. It's the client himself who has to integrate both services and technology into his living pattern. The client must have the idea that with this support he will be able to keep on living independent.

This means that the project should start by visualizing the requests formulated by the client. There are different ways to do this. One could set up an extensive marketing research, or you could try to determine what is needed in connection with people close to the clients (e.g. the community nurses). You could take inventory of all care related demands. You could speak with the local interest or pressure groups.

Apart from this it's of great importance to gain the trust of the client, only with trust he will connect to the idea of the project. It's important that he experiences the community feeling as quickly as possible, he must know he isn't the only one participating. He must feel connected and socialized.

The project WSG Geldrop-Mierlo was started with a combination of resources as one. As an introduction an information meeting was organized through adds and invitations in which the community idea was communicated.

Because the meetings were well visited, people could see they are part of a larger community. Afterwards the visitors were asked if and why they are interested and in what specifically. This provided a good idea of the requested support or requirements of the client.

The meeting consisted of two parts, the first part gave an impression of the local challenges concerning the shortage of housing for the elderly and the support in care in the nearby future. This led to the conception people should stay living independently as long as possible. Next the big picture of screen-to-screen communication and other services was explained and demonstrated. Afterwards people were asked to write down all of their questions on a card. After a short break in part two of the meeting all questions were answered. And finally people were asked to fill in a form on which they could put down their possible needs and requirements.



This all led to a project set up to the principle “act local, think global”. That what can be provided to client locally should originate from the nearby environment. These are the things the client knows and trusts. But everything that cannot be provided nearby should be provided “globally” to complete the package. All of this should be offered tailor made way.

Therefore with a complexity fitting the client, via a medium he can relate to and in a language he understands. The way in which it is offered should let clients think it’s especially designed and configured for them.

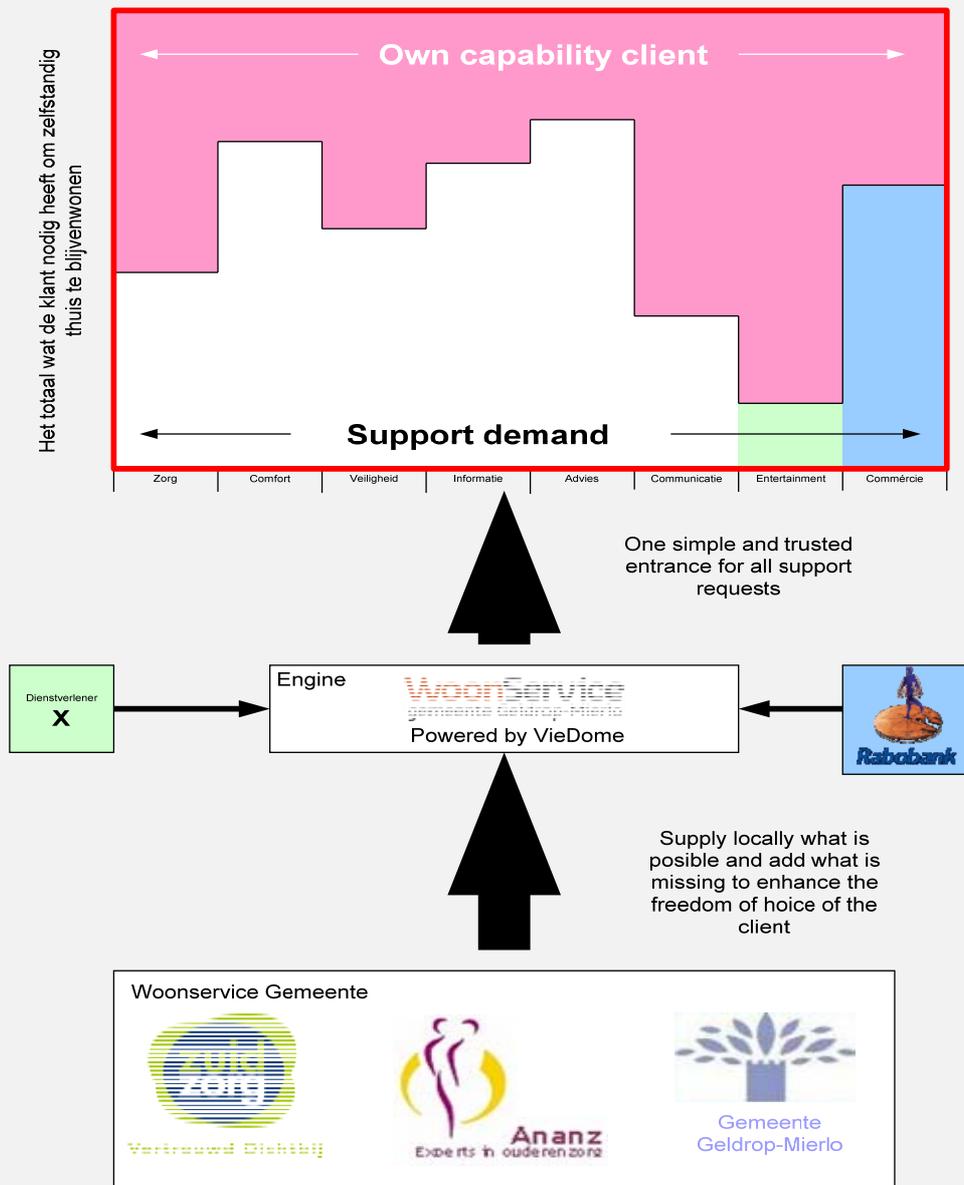
Having found out what clients consider important and established what the service providers can offer, the services package can be configured. It’s important that both parties (client and services provider) can recognize themselves in this configured package.

Because it concerns a complex package it’s important that the providers don’t limit themselves to their own possibilities but they concentrate on the wishes of the client and then determine what they can and are willing to offer. The part of the service package a provider cannot offer himself should be offered through cooperation within the project with other partners or added by procuring

it. When partners are collaborating they should present themselves as one local organization so their easily recognized by the client.

Herewith a model is formed where local providers present themselves as one organization and establish the way in which they present themselves. Even competitive providers can work together because it's the client that chooses in the end what service from whom he will obtain. Comparable services can be offered and fitted into the same concept. All using the VieDome platform.

Within project WSG Geldrop Mierlo the model below is used. Project partners offer an integrated services package with focus on communication, information, safety, comfort and care. This package is offered through different media (PC, television or touchscreen service point) on which all services are available.



The VieDome platform technology in this model is the engine that will provide the content to the client in a way fitting to the expectation and requirement of both the individual client and the individual service provider. It will provide uniform appearance of the project platform an easy access to the services. Technology will add to the security of the client by shielding him from unwanted intruders trying to contact through the system.

The engine can also be used to deliver services locally unavailable so the local service provider can add this to his value.

In the WSG Geldrop-Mierlo project the intake is done by a certified ICT nurse. This is a especially for this application trained nurse who understands all pro's and cons of the technological possibilities and who is well acquainted with the services

The intake supplies a description of the requested services and is send to the service provider and it will provide a description of the technological need which is send on the the technology supplier. The requested services will be programmed into the system. For the residence a technology set is configured fitting to the house and making use of the existing infrastructure, like the powernet or wireles solutions.

A volunteer of the service provider installs the technology in the residence and tests the equipment with the helpdesk of the technology supplier. When everything is operational the residence will be adopted into the VieDome platform and the volunteer will instruct the client on use of the system. The client at the end tests the system themselves with the service-call-center.

After clients are informed on the service package they can enroll. A personal intake is held with every person that has enrolled into the project. During the meeting a decision is made on what services the client requires, what technology will be needed to realize this and how it is to be implemented in the residence. After this intake the actual required package of services will be known. In many cases it will differ from what the client primarily had formulated. At the intake the client receives more information and he will come to conclusions he didn't think about before, but also the experience of the service provider will influence the support demand.

Based on the intake the technological installation for the residence will be configured. This technological installation should be simple to implement in the residence, because research shows the first visit to the home, when technology is implemented, is crucial for the success of the project. If technology is simple to mount, without major structural work and it operates immediately, the client will participate long term in the project.

To keep the client involved with the project it's important to inform the client on a regular basis about the progress of the project and to let them share knowledge and experience with other users. Furthermore it is important to visualize service providers in communication to provide trust. Equally important is the involvement of friends and family. Especially with elderly family and friends are of great importance on making decisions.

Communication can be provided in different ways. You can use the internet, electronic mail, visible in the system, or hardcopy communication. The last one offers the advantage for users to show off with it. Disadvantage is that it is more costly and environmentally unattractive.

Service providers should receive feedback from the new experiences and wishes of the clients to keep the project interactive and matching the needs and requirements.

Within VieDome projects a combination of communication means is enlisted to inform clients and to obtain feedback. There are for instance hardcopy newsletters titled “Cést la Vie”, focus groups are instated and an interactive website www.viedomevandaag.nl. Also a feed-back button is used in the platform by which participants can give direct feed-back.



This feedback should be offered in different ways such as through an interactive website, a focus group, or regular questionnaires. A focus group has the advantage because it's direct and interactive. Feed-Back buttons can also be used to get direct feedback but they will only function if participants can handle them otherwise they are useless.

Keep in touch

As described here there is a lot of experience in projects where the VieDome platform is used to support elderly people to live independently. In all of those projects socializing and social living are cornerstones for success. Keeping in touch with other people is the main way in which this is accomplished. Keeping in touch in these kinds of projects has two kinds of reality. A digital world in which technology is used to fulfill needs and requirements and a real world in which physical interaction with other people are used to the same end.

For example many elderly people don't have the means or opportunity to stay in touch with family and friends that aren't living in the direct neighborhood. In screen-to-screen and service projects the digital world provides them with services like video communication and mail to keep in touch with family and friends. But within these projects there is also a real world in which services like speed-dating events for elderly brings people in contact with new contacts that are living in their neighborhood. By doing this these projects create a bridge between the digital world and the real world.

In these projects the digital world is mainly used to give the clients new opportunities and to make care and services more efficient. The real world is mainly used to give the client perspective and create or confirm the social embedding of the client. Both worlds are complementary and one can't go without the other in supporting elderly people to live independently.

To protect clients from unwanted calls participants of the VieDome platform can, next to calls to service providers, only place a call to other participants they know. For this to work both participants have got to have an entry in each other's electronic addressbook.

To get these entries participants can come in contact with each other when they place and answer messages on the community bulletinboard. Another way to come in to contact is to visit a speed dating meeting which are organized by the combined service providers. During this meeting you can exchange addresses by exchanging your VieDome "businesscard" you get when participating in a meeting. The meetings are organized locally so participants only meet people that live in the direct neighborhood. In this way it is easy to meet other participants in the digital world and in real life. These meetings also contribute to the feeling of belonging to a community.



Conclusion

Screen-to-screen and service projects are often experienced as complex projects in which service providers often don't rightly know how to start and how to approach clients and interest them to participate in this new service provision. Even the service packages can provide questions.

The experience with a number of screen-to-screen and service projects lead to an image of how the project set up should be. A structure can be discovered on the needed project approach.

In these kinds of projects a digital world (community) must be created at the participant's home by means of video communication, audio environment, sensors and a matching service package. Also a

real world (community) must be realized by means of support group meetings, speed dating meetings, physical contacts, physical services and so on.

Socialization in the digital world and social life in the real world must be connected in projects which aim to support elderly people in prolonged independent living in their own social setting.

Knowledge is acquired in these projects on how to approach future projects.