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## **Foreword**

In talks with many organizations wanting to start screen-to-screen care services the question arises how the different elements of such a concept interconnect. Why cooperate and with whom? What services 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 customer. It's not an attempt to describe the whole reality or solution but we attempt to structure decisions when designing or realization of projects fully focused on the client.

## **The customer 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 providing organization as if there is client uniformity. Many organizations wonder how to offer screen-to-screen care, what will make people stay longer in their own home. What will motivate people to participate in care-domotic projects.

Design and development of the Viedome concept and technology is based on an 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 providers feel this complicates the realization of projects. The manifold of possibilities lead to a loss of overview and hard to structure projects. For that reason organization 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.

From a number of screen-to-screen projects, targeting prolonged and independent stay at home of people we discovered that acceptance of the provided technology by the resident is a major success factor. Acceptance doesn't only mean accepting the implementation of the technology in the residence but it must become part of the daily living routine of the client. A device is acquiring dust in a corner of the room because it's hardly ever used if it 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 customer. The customer stays accustomed to the use of system and services and looks upon it as valuable.

### **Staying at your own residence is a sum of your needs**

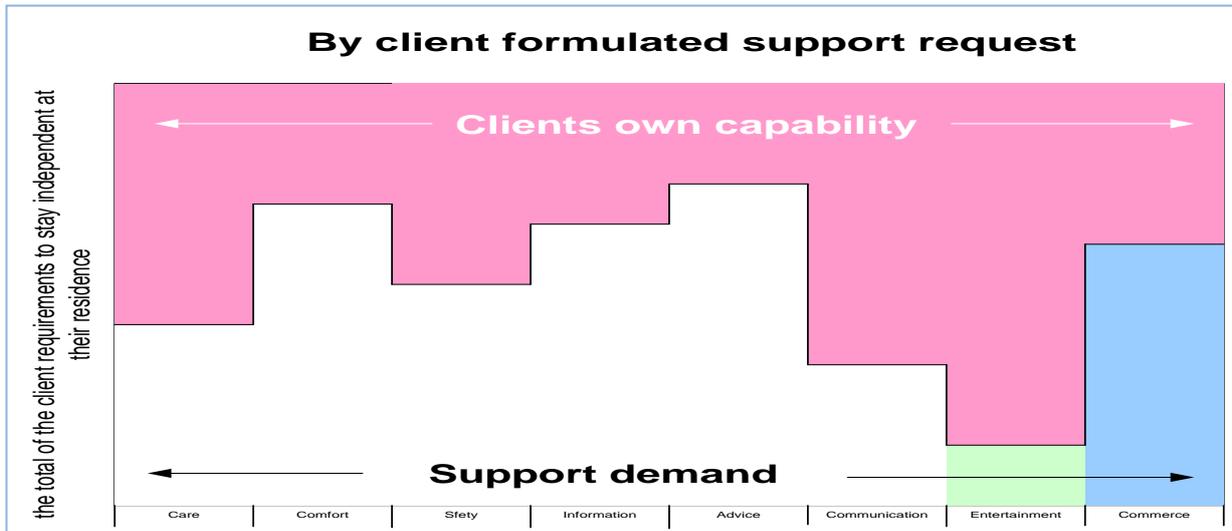
The question is; what determines whether someone wants or can keep living independent. Starting point in this model is that in order for the customer to keep living independent, as an analogy to the model of Maslow, an essential number of needs and requirements must be provided. These needs or requirements need to focus specific on functioning independent or at least support the feel 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 independent can fulfill these needs and requirements themselves. But as you grow older or acquire a disability it becomes impossible to fulfill 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 require care at a much later stage. With the swift growing community of elderly a negative association like pity full or humiliating etc is forming in connection to care as a result of the negative press on nursing homes. One wants to stay vital !

When searching for participants in the Woon-Service gemeente Geldrop-Mierlo (assistant living service community council Geldrop-Mierlo).2200 elderly were invited by mail, known to at least one of the project partners (care and social assistance). 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 they asked if people 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 only 15% were interested in care services. 41% however were interested in service on 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. Apart from the perception the client has on his support a number of social and perceptual factors play an important role, without a relation with the actual needs and requirements, but have a relation to our 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 the vision he has on his personal assistance request based on his self image in correlation with the social context in which he lives. In practice it seems that in many cases requirements with low social gain will be valued much lower than needed in reality, just up to the moment the need for care becomes apparent, for instance as a result of a fall in the bathroom or a different occurrence.

To attract customers to screen-to-screen projects or service community council in particular it's not important what providers think that is needed but their service package should offer what customers think what they might need. Even so we know that in common use it will differ.

For communication with and attracting customers the marketing model of the parallel C's (Customer solution, Cost to the customer, Convenience en Communication) by Robert Lauterborn it is important that marketing a product should be looked upon from a consumer perspective. The idea behind it is that you are not trying to market a product but to try and win over a customer 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 customer.

The starting point of this marketing model is consumer solutions based on an attractive price and quality balance, with numerous selection opportunities targeted on different focus groups.

Important is the customer 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 customer must feel recognized and involved. He must feel accepted in the social context of the users, in the screen-to-screen community.

The focus group of the VieDome project Heeze were mainly women over 80 years of age. Elderly who became pensioners before the personal computer was introduced. By communicating beforehand but mainly by providing a newspaper among the users with practical stories and tips lead to the involvement of the elderly. There also were bi-monthly meetings and a sounding-board group. On this was also reported in the newspaper. In the end the system 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.

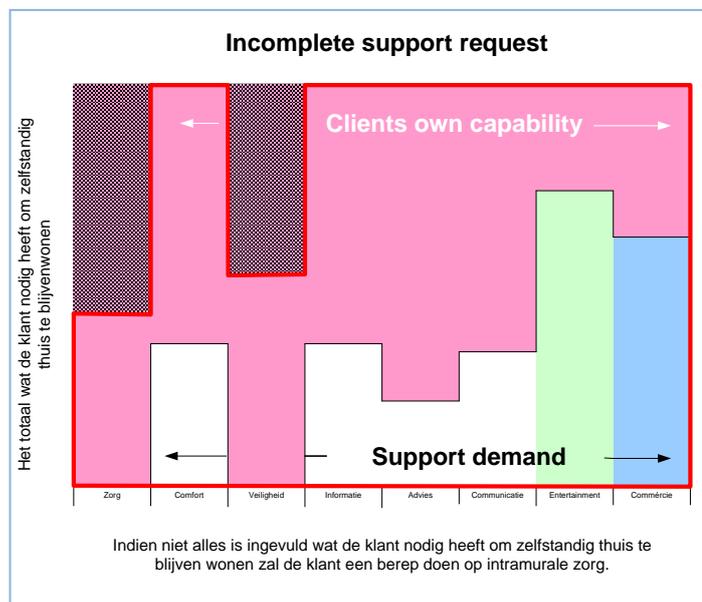
### What do we need to offer?

If we trust the model that if a customer has all he needs to be able to keep on living independent, he will do so, than the starting point for screen-to-screen should be based on the by the client formulated support request

If a customer feels his capability is insufficient for 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 customer has his own profile and will look for personal support on specific terrain in a required amount. By the offer provided the customer can be triggered to participate in screen-to-screen support concept. The wider the service provisioning package the more triggers it contains for the different focus groups.

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 customer.



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.

Effects on the living 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 learn from experience that a good morning and good evening service is an important beacon in sustaining ones daily routines, even to hold on to ones living pattern longer.

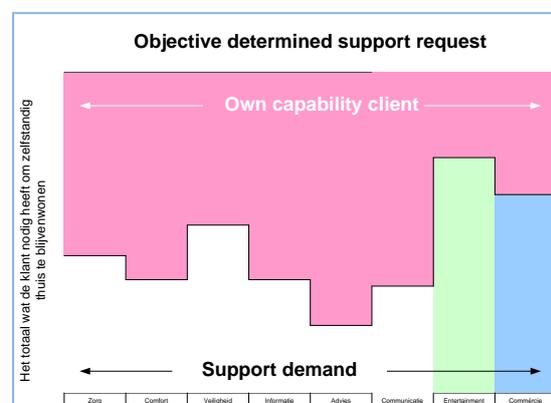
It should not be a package that either offers everything or nothing, the provided service should be easily adaptable to the specific demands of the customer but even more it should offer a sliding scale of assistance to offer demand-controlled solutions. It should be easy to start with simple support requests that can be expanded if needing more assistance 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 customer will strive to obtain a different residential environment that will provide an answer to all possible requirements. Naturally there are limitations and a customer will accept that not all 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 customer is free to determine his own choice and selection, it is important that the services package contains “daily” services. It is important that the customer uses the supporting services on a daily basis to enclose the service and with it the technology into his pattern of life.

### The actual needed services will differ from the expected one

In numerous projects focused on prolonged independent living the services provider and service client think independent of each other what services will be needed. After the intake (the moment provider and client communicate with each other) it often seems that the y the client determined support request strongly differs from the provider expected or planned support request.



There are many examples available. A great number of experts assume that almost all elderly who want to keep living independent 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 residents 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. The presence of door video seems in this situation (where the front door can be seen from the living room) unnecessary but it often 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 make can be is the camera selection in VieDome project Aalst-Waalre. Here the service providers engaged in a month 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 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. Safety is more important as the bathroom is for most residents the by far most dangerous place in a house.

Residents seem to experience privacy as trading option. 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.

### **Ideal project configuration**

What is the meaning of all of these reflections on the configuration of screen-to-screen 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 by the customer formulated support request. 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 customers (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 that it is of importance to gain the trust of the customer, than 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

Within the project services community council Geldrop-Mierlo started with a combination of resources as one. As introduction of the services community council 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 of elderly and the support in care in the nearby future. This led to the conception people should stay living independent as long as possible. Next the big picture of screen-to-screen communication 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.



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 customer knows and trusts. But everything that cannot be provided nearby should be provided “globally” to complete the package. All of this should be offered to him in a for the client fitting 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 customers 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 though cooperation within the project with other partners or added by procuring it. When partners are collaborating they should present themselves as one local organization.

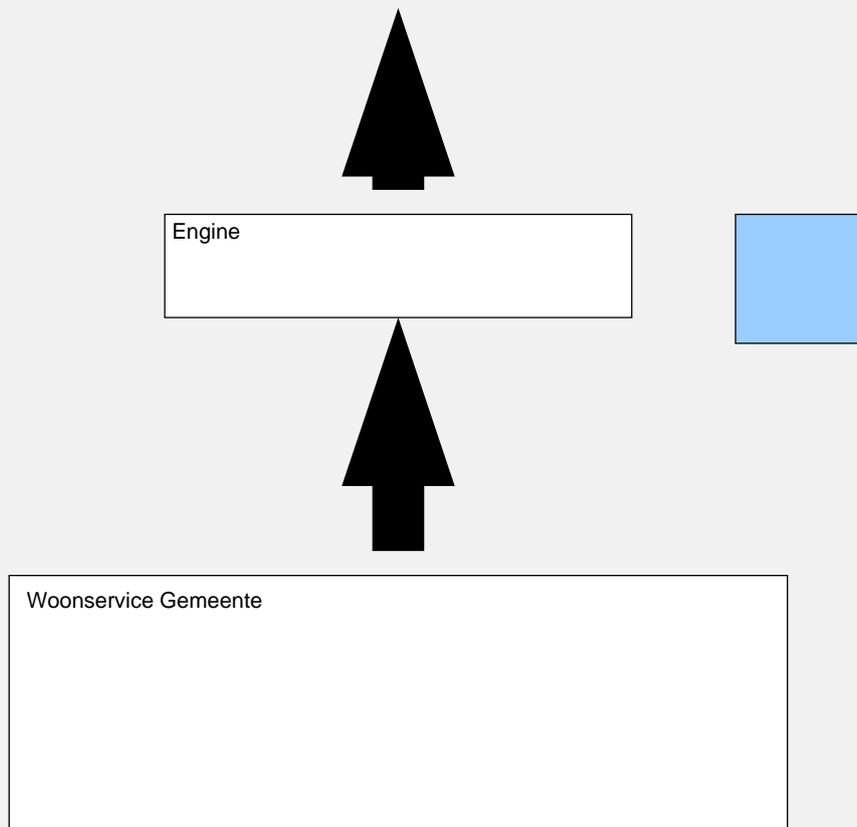
Herewith a model is formed where local providers present themselves as one organization and establish the way in which they present themselves. Even competitive providers can work together

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.

Technology in this model is the engine that will provide the content to the customer in a way fitting to the expectation and requirement of both client and service provider. It will provide uniform appearance an easy access to the needed 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.

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



In the WoonServiceGemeente Geldrop Mierlo project the intake is done by a certified ICT nurse. This is 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 sent to the service provider and it will provide a description of the technological need which is sent on to 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 wireless solutions.

A volunteer of the care 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 network and the volunteer will instruct the customer on use of the system. The customer at the end tests the system themselves with the care-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 care 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 chance the customer will participate long term in the project.

To keep the customer involved with the project it's important to inform the customer 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 the informal care giver in their vicinity. Especially with elderly the informal care giver (often family) 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 we work with a combination of communication means 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](http://www.viedomevandaag.nl).



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.

## Conclusion

Screen-to-screen projects are often experienced as complex projects in which they 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 projects lead to the image how the project set up should be. A structure can be discovered on the needed project approach. In the Eindhoven area it lead to the Woon-Service-Gemeente concept. Knowledge is acquired in these projects on how to approach future projects.