Supervisor in own home, infrastructure needs for welfare technology
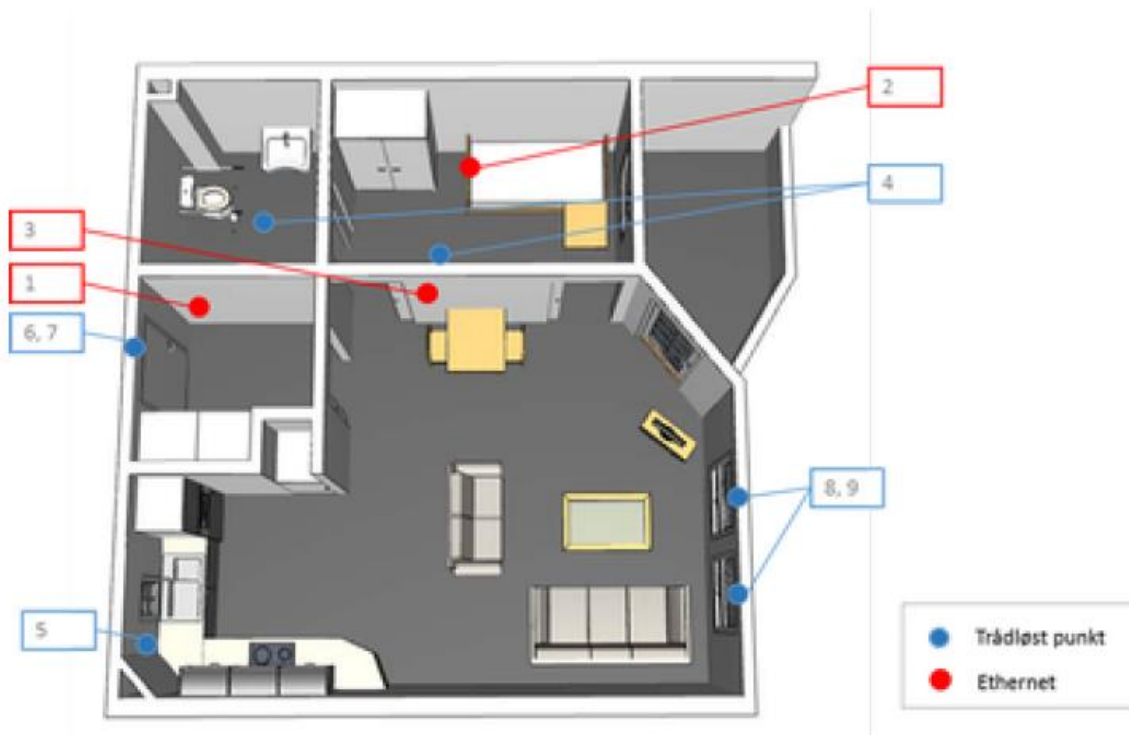
1 Introduction to supervisor

This guide sets out the basic needs for infrastructure in housing related to welfare technology solutions. Welfare technology in housing will
mainly be based on wireless technology and sensors, with some exceptions where wired Ethernet is recommended for various reasons related to
privacy and reliability.

This document does not cover guidelines for universal design, TEK17 (Norwegian Technical Building Regulations) or other relevant building regulations. Requirements for stove guard and water trap is believed to be covered through this.

All ICT delivery in the project must comply with the authorities' ICT requirements specification and cable standard for construction (fiber to construction, technical room Etc.).

Empty pipe systems are established to cover any future needs for welfare technology. It shall be made with inlaid pulling wire, and electrical boxes must be complete with frame and blind lid.

See figure below for points that should be prepared for in new homes to ensure facilitation for a minimum level of welfare technology solutions.

#	Function	Description	Type	Empty pipe	Power
1	IP point entrance	Electrical box 1 ½ "recessed in the wall 141 cm from the floor	Ethernet	Led to technical cabinet / technical room	PoE
2	IP point bedroom	Electrical box 1 ½ "is mounted in the ceiling in the corner or near bed. Further cabling is planned on the outside of the wall when retrofitting equipment. Alternatively, RJ45 network outlet if the point is specifically intended camera	Ethernet	Led to technical cabinet / technical room	PoE
3	IP point for IR / TV	Dual RJ45 network socket at the intended TV location	Ethernet	Led to technical cabinet / technical room	PoE
4	Night light	Electrical box 1 ½ "for future night light should be placed 50 cm above the floor with indirect lighting between the bed and bathroom, and mounted in the ceiling in the bathroom	N/A	Led to technical cabinet / technical room	Mains
5	Power outlet	Electrical box 1 ½ "behind and above workbench in the kitchen. Sockets should have control lights that indicate power in the socket	N/A	N/A	Mains
6	Door Censor	Magnetic sensor hidden in door. Tube up to electrical box 1 ½ " over door frame where wire from magnet sensor is terminated. Pipes from electrical box to cabinet welfare technology	N/A	Led to technical cabinet / technical room	
7	Door automation	230 V power from cabinet welfare technology to Electrical box 1 ½ "at the upper edge of the door pump location, empty pipe system for Electrical box 1 ½" at automatic door control.	N/A	Led to technical cabinet / technical room and to location of equipment	Mains
8	Window automation	230 V power from cabinet welfare technology to Electrical box 1 ½ "at the end of the window top edge, empty pipe system to Electrical box 1 ½ "when operating window automation	N/A	Led to technical cabinet / technical room and to location of equipment	Mains
9	Sun protection For sun-exposed facades	230 V power from cabinet welfare technology to Electrical box 1 ½ "outdoors at the end of the window top edge, empty pipe system for electrical box 1 ½ "at the intended location of the operation of the sun protection	N/A	Through the outer wall and on to technical cabinet / technical room	Mains
10	Various electrical work	- Power outlet in a suitable place for security alarm / charging station at the correct height - Power outlet near intended location(s) camera location(s) - Power outlet at the bedside for any motorized bed	N/A	N/A	Mains

* if it is considered difficult to pull cable in empty pipes with inserted pull cord afterwards (eg more than 10 meters for placement of technical box or difficult angles) the wiring should be carried out immediately

1.1 Requirements for space for ICT cabinets

Technical installations for Welfare Technology are gathered in a separate room (mini computer room described in ICT total requirements package)

- Fiber for construction shall be made available by a draw pipe from the fiber sump to the room for ICT subdivision
- Traction pipes and cable guides are routed in the sole from the outside to the technical room and from there to each housing unit
- Patch panel for wired equipment in the living unit
- Space for gateway and switch / router
- Minimum 2 pcs. 230V power outlet

- Locking insert of approved type

A separate room for ICT subdivision can possibly be replaced with a dedicated cabinet for welfare technology per housing unit with space for necessary equipment. This must be placed in a suitable (sheltered) place in the apartment, central enough to ensure adequate coverage in the apartment for receiving wireless signals.

1.2 Requirements for central infrastructure

- For each housing unit, at least all traction pipes must be brought up to the attic for the greatest possible flexibility for placement
- There must be opportunities for placement of dedicated cabinets for welfare technology per housing unit with space for necessary equipment. This must could be placed in a suitable (shielded) place in the living unit, central enough to ensure adequate coverage for receiving wireless signals between the gateway and peripheral equipment in the individual housing unit

1.2 User groups with special needs

For housing intended for special user groups with extended needs such as care homes and staffed housing, it must be carried out one own study in the project to clarify needs for welfare technology beyond the minimum level (eg intoxication and psychiatry, wheelchair users etc.). Examples of this can be raising / lowering legs, flushing and blow-drying, or power courses and sockets inside or outside for wheelchairs, electric cars with more.