



Intellectual disability:
independence, engagement and security



ABILIA

About Abilia

Abilia is working towards a socially sustainable and inclusive society in which people with special needs feel secure, independent and engaged. We are passionate about creating the conditions for everyone to live a richer life. We are committed to the UN's Global Sustainable Development Goals, as our assistive technology is adapted to the individual, creates behavioural change and has a lasting impact for the individual, customers and society.

With more than 50 years of experience and the solid foundations of research results, we know that our assistive technology makes a difference. Early intervention is key to improving educational levels, inclusion in society and lifelong health.



Cognitive support and environmental control

Gaining access to assistive devices can make individuals independent, engaged and secure. Abilia's cognitive support are designed to support people with cognitive challenges so that they can plan and structure their everyday lives, either independently or with the help of others. Studies show that providing users with cognitive support increases their potential to be able to carry out activities and enjoy a higher quality of life.

Time becomes more tangible when it is visualised as a quantity and can help the user to gain a better sense and understanding of time. The user can benefit from increased predictability in and control over their day. This makes it easier to plan activities and carry them out independently. The user also receives support in remembering activities, both in the past and in the future. It can make it easier to communicate about events.

Environmental controls help individuals with cognitive or motor disabilities to control functions in their environment. This could be, for example, opening and closing doors, controlling lights and bed functions or operating their TV. Studies show that users of Abilia's assistive devices feel that they are less dependent on other people.



Intellectual disability and other conditions

There are many different causes of intellectual disability. It may be due to a chromosomal abnormality, such as in Down's syndrome or Fragile X syndrome. Another cause could be injuries or illnesses in the womb or during birth. Sometimes, it is not possible to determine the underlying cause.

Impairment of brain functions can occur at various levels. It is important to distinguish between these levels of intellectual disability:

- Mild
- Intermediate or moderate
- Severe
- Very severe

It is also common to experience an intellectual disability together with other diagnoses, for example autism spectrum disorders, ADHD, epilepsy and impaired motor skills, vision and hearing.

The intellectual disability presents itself in difficulties in acquiring theoretical knowledge, handling social interaction and performing practical tasks. How this affects daily life depends on the degree of intellectual disability, as well as any other diagnoses the person might have.

An intellectual disability means that the individual has difficulty in processing abstract thought, in other words, the ability to perform mental calculations and to consider consequences. It takes more time to learn and understand things.

Training and the opportunity to gain new experiences mean that a person with an intellectual disability can increase both their capacity for activities and engagement in different areas.

Cognitive functions affected by intellectual disability

Time perception:

An experience of time - subjective experiences that are connected to the length and passing of time

Time orientation - awareness of time of day, day of week, date, month and year

Time planning - organise events in a chronological order, allocate the time required to events and activities

ICF-code b1802, b1140, b1642

Memory:

Short term memory - temporary and dissolvable memory of approximately thirty seconds duration, from which time information is lost if it is not secured in long term memory

Long-term memory - long-term storage of information from the short-term memory. Both autobiographic and semantic memories

Memory recall and processing - remembering information that is stored in the long-term memory and bringing it to consciousness

ICF-code b1440, b1441, b1442

Higher cognitive functions:

Abstraction - functions to create general ideas, qualities or characteristics based on, but separated from, concrete realities, specific objects or real-life examples

Organisation and planning - to coordinate parts in a whole, to systematise; to develop a method for how to proceed or act

Cognitive flexibility - functions to change strategies, shift point-of-view, especially when involved in problem-solving

Problem-solving - to identify, analyse and integrate incompatible or contradictory information in order to reach a solution

ICF-code b1640, b1641, b1643, b1646

Language functions:

Receiving spoken language - interpreting spoken messages in order to understand their meaning

Receiving written language - interpreting written messages in order to understand their meaning

ICF-code b16700, b16701

Impaired understanding of time in daily life

- An impaired sense of units of time and how time passes may make it difficult to understand what can be achieved in half an hour or how long it will take before something happens, for example.
- Instructions based on the date, day of the week, month and year can be difficult to follow.
- Independently managing the arrangement of events in chronological order and knowing how much time to allocate for an activity can become a major challenge.

Impact of impaired memory

- Only being able to keep certain individual units active in the short-term memory affects the ability to learn new things and to perform activities independently.
- An impaired capacity to store memory in the long-term makes it difficult to remember planned activities and things that have happened.
- Difficulties in recollecting memories, both of what will happen and what has happened, mean that life is concentrated on the here and now and lead to reduced predictability in daily life.

• Impairment of higher cognitive functions affects all daily activities

- It can become a major challenge to think out, plan and perform an activity independently. Changes and changing strategy when something unexpected occurs can also be a problem in certain activities.
- Understanding the value of money or the time shown on a clock face are examples of things that are difficult to understand, as these are abstract concepts.
- Acquiring knowledge and organising and using knowledge in tasks that require mental activity are challenging. Identifying, analysing and solving a task becomes difficult with an impaired ability to see the big picture and systematise.

Impaired language functions affect all interactions

- It is often difficult to interpret and express oneself in speech and writing.
- Receiving visual guidance as a complement to written activities, as well as symbols and photos of staff and relatives, are often important for both understanding and making oneself understood. In turn, this can lead to increased engagement.

Cognitive support in daily life provides predictability and independence

The quarter hour principle shows time as a quantity

The Quarter Hour Principle is the basis of Abilia's assistive time devices.. Time is abstract and often difficult to manage. Time perception is based on the individual having a sense of the passage of time, being able to orientate themselves in time, and plan their time.

- the Quarter Hour Principle shows the time as a quantity
- everyone can follow what is more and less, and that when a dot "disappears" is it less
- the term "dot" can be used in daily speech
- you don't need to know time concepts such as hours and minutes
- comprehensible terms allow many people to increase their perception of time

The time pillar counts down to an event with fixed, countable steps.

Dots go out from top to bottom:

1 dot = 15 minutes = "1 quarter"

More than 8 dots = "a long time"



A lot or a little lemonade



A lot or a little time

Proven and evidence-based medical device products

The following products are Abilia's solutions for supporting individuals with intellectual disability:

MEMO Timer

MEMO Timer is a robust timer that visualises time as a quantity.

The product can support users to:

- gain an increased sense of time
- wait for something
- feel calmer and in control
- avoid needing to ask about activities that will happen "soon"
- reduce their dependence on others



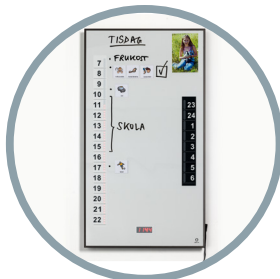
MEMO Timer

MEMO Dayboard

The MEMO Dayboard is a planner for those who require a visual overview of the day in terms of the passage of time.

The product can support users to:

- gain a better understanding and sense of time
- gain predictability over what will happen and when
- understand and communicate about events
- perform activities more independently
- reduce their dependence on reminders from parents, for example
- feel calm and in control



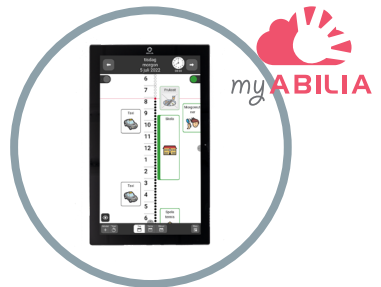
MEMO Dayboard

MEMOplanner

MEMOplanner is an assistive digital time and planning device, which can also be administered remotely via the myAbilia web service. The product comes with an app so that users can access the cognitive support via their mobile phone.

The product can support users to:

- gain a better understanding and sense of time
- understand and communicate about events
- be engaged in activities
- start activities on time
- perform activities more independently
- reduce their dependence on reminders from parents, for example
- feel calm and in control



MEMOplanner

HandiCalendar

HandiCalendar is a solution that users have on their own mobile phones. Support staff can administer the calendar remotely via the myAbilia web service.

The product supports users to:

- gain a better understanding and sense of time
- create routines and structure in daily life
- be more engaged in activities
- understand and communicate about events
- as adults, manage personal care and home activities
- as children, prepare themselves for an independent life in the future



HandiKalendar

Environmental control products

Environmental controls help people with cognitive or motor disabilities to control functions in their environment. This could be, for example, opening and closing doors, controlling lights and bed functions or operating their TV or music system. The product range enables a user to feel more independent.

GEWA Maxi

GEWA Maxi is a large and robust remote control. It can be programmed with optional IR-controlled equipment and a relay box with a lamp, for example. Large, recessed buttons with image guidance make it easier to control the right function.



GEWA Maxi

Big Jack

Big Jack is a remote control which large, colourful control switches can be plugged into. The remote control can help when making choices and controlling individual functions. The remote control can control IR-controlled functions and relay boxes with a lamp, for example.



Big Jack

Control 18

Control 18 is a remote control with grid and overlay. Image guidance and recessed buttons help increase understanding of what is being controlled. The remote control can control IR-controlled functions and relay boxes with a lamp, for example.



Control 18

Andromeda Socket

Andromeda Socket is a relay box where the power is remote controlled either using an optional remote control or a large control switch. A lamp, fan or other electrical product can be plugged into the relay box.

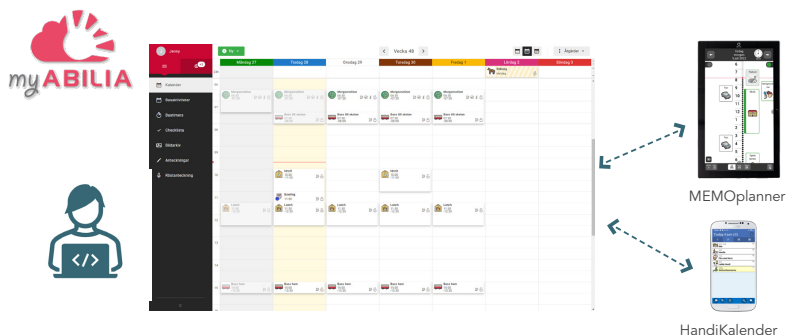


Andromeda Socket



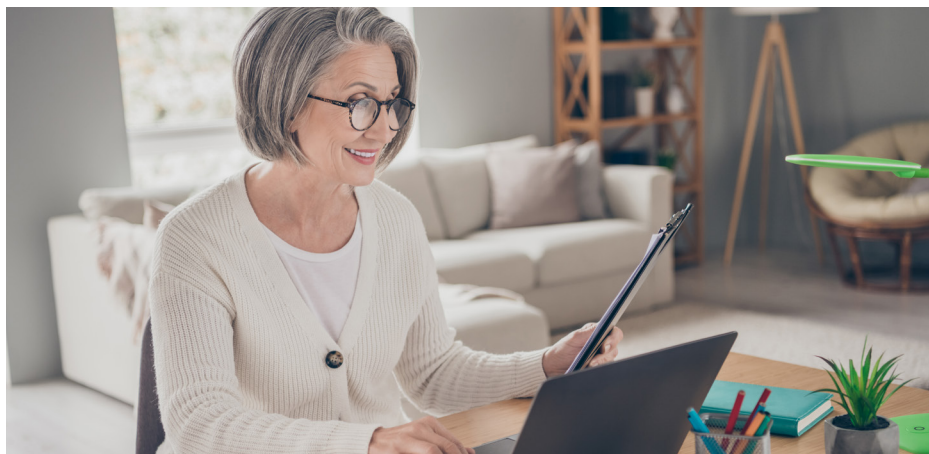
myAbilia – efficient and personalised

myAbilia is a web-based solution able to support individuals who use any of the MEMOplanner or HandiKalendar cognitive assistive devices. With myAbilia, relatives, care providers and school staff, etc. can remotely administer the individual's cognitive assistive device. Support staff can add activities and reminders, manage image archives and checklists, etc. via myAbilia, with all information synced to the individual's cognitive assistive devices.



myAbilia – for organisations

For organisations, such as communal residences and organised daily work activities activities, there is the additional myAbilia with group functionality service. This service offers an effective means of supporting individuals in achieving predictability, engagement and independence. Staff can support multiple individuals with calendar administration and invites to group activities.



User-friendly and safe products

Abilia's products are developed for a specific target group and for a specific purpose.

The products:

- are based on research and clinical evidence
- safely compensate for disabilities
- take into account risks that may arise during use
- feedback on use and continuous improvements provide increased security for the user

Abilia's products are medical devices, class I, and are CE marked in accordance with the European Regulation 2017 / 745 – MDR.

Abilia is certified according to ISO 13485 – safety for customers and users

As a medical technology company, Abilia is certified in accordance with the international standard ISO 13485. This means that Abilia has a quality management system in accordance with applicable regulatory requirements.





Access to the right assistive tool at the right time can make all the difference

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