

The EASTIN taxonomy

The EASTIN Portal provides information on the following three categories of resources:

- **Assistive Products**
- **Organizations**, including *Companies* (manufacturer, suppliers, resellers), *Service Providers*, and *Projects*
- **Information materials**, including *Articles*, *Case Descriptions*, *Ideas*, *FAQs*, *Forums*, *News*, and *Regulations*.

Within the EASTIN portal such resources are described according a *Taxonomy* that has been developed within the framework of the EU funded project *ETNA*¹. Such Taxonomy identifies, for each of the three categories of resources, a *basic dataset* that represents the minimum set of information needed to uniquely identify a resource, understand what kind of resource it is and what it is about, and make the resource retrievable by the EASTIN search engine.

The Basic Datasets for EASTIN resources

The basic datasets for the three categories of resources (*Assistive Products*, *Organizations*, and *Information Materials*) included in the EASTIN portal are reported in Table 1.

Assistive Products	Organizations	Associated Information
<p>Record identification</p> <ul style="list-style-type: none"> • Product Name <p>Product Typology</p> <ul style="list-style-type: none"> • Classification code and name <p>Dates</p> <ul style="list-style-type: none"> • Insert Date • Latest update date <p>Manufacturer information</p> <ul style="list-style-type: none"> • Name • Address, Postal code, Town, Country • Phone, E-mail, Skype • Website, Social network <p>Free text description</p> <ul style="list-style-type: none"> • Original language • English <p>Image</p> <ul style="list-style-type: none"> • Product small image url • Product large image url <p>Links to further details</p> <ul style="list-style-type: none"> • User manual • Video demo • Brochure • Other documents 	<p>Category</p> <ul style="list-style-type: none"> • Company/ Service Provider / Project <p>Record identification</p> <ul style="list-style-type: none"> • Full name in original language • Full name in English • Short name (Acronym) <p>Free text description</p> <ul style="list-style-type: none"> • Original language • English <p>Dates</p> <ul style="list-style-type: none"> • Insert Date • Last update date • Start date • End date <p>Contact Body</p> <ul style="list-style-type: none"> • Name • Contact person name • Address, Postal code, Town, Country • Phone, E-mail, Skype • Website, Social network <p>Source of information</p> <ul style="list-style-type: none"> • Information provider name 	<p>Category</p> <ul style="list-style-type: none"> • Article/ Case Description/ Idea/ FAQ/ Forums/ News/ Regulations <p>Record identification</p> <ul style="list-style-type: none"> • Title in original language • Title in English • Authors • Publishing details <p>Free text description</p> <ul style="list-style-type: none"> • Abstract in original language • Abstract in English <p>Dates</p> <ul style="list-style-type: none"> • Insert Date • Latest update date • Publication year <p>Source of information</p> <ul style="list-style-type: none"> • Information provider name • Information provider country • Link to original record <p>Links to further info</p> <ul style="list-style-type: none"> • Link to Full record • Link to further information <p>Image</p>

¹ For more information about the ETNA project please visit the website www.etna-project.eu

Assistive Products	Organizations	Associated Information
<p>Source of information</p> <ul style="list-style-type: none"> Information provider name Information provider country Link to Full product record <p>Download/Purchase website</p> <ul style="list-style-type: none"> Download/purchase web page 	<ul style="list-style-type: none"> Information provider country <p>Domain</p> <ul style="list-style-type: none"> Organization domain according to ISO 9999 codes Organization domain according to ICF codes 	<ul style="list-style-type: none"> Image url <p>Domain</p> <ul style="list-style-type: none"> Related domain according to ISO 9999 codes Related domain according to ICF codes

The Detailed Dataset for Assistive Products

For Assistive Products a *Detailed Dataset* has also been defined consisting of a *Vocabulary of Features* used for standardizing the description of products' technical details. The *Vocabulary* is based on a two level hierarchy made up of *Groups* (or *Cluster*) and *Features*. Homogeneous Features are grouped together in the same Group. For example the Features "Windows", "Mac OS", "Linux", "Chrome OS", etc... are all grouped in the Group "Operating System", while "Printer", "Visual display", "Tactile display", etc... are grouped in the Group "Output devices". Features can be of two types: *Measures*, that have a numeric value (or an interval) specified (e.g. *Weight (kg) = 1.5*, *Length (cm) = 10*, ...), and *Attributes*, that have a yes/no value specified depending on whether the feature is available or not for the specific product (e.g. *Spell correction = yes*, *Switch controlled scanning = no*, ...).

A list of product typologies has also been identified and included in the vocabulary. Those typologies are intended to be a refinement of some of the divisions included in the ISO 9999 standard and are therefore called *Subdivisions*. Similarly to the ISO 9999 standard, each subdivision has a code, a title, and an explanatory note.

The Feature Vocabulary

The table below lists all the features and the subdivisions (with their respective IDs) of the EASTIN taxonomy².

ID	Name	Type	Description
1	Overall dimensions	cluster	
2	Width (cm)	measure	
3	Length (cm)	measure	
4	Height (cm)	measure	
5	Weight (kg)	measure	
6	Capacity/Range	cluster	
7	Magnification (x)	measure	
8	Number of keys	measure	
9	Number of input channels/devices/messages	measure	
10	Number of output channels/devices/messages	measure	
11	Signal range (m)	measure	
325	Max sound/speech volume (dB)	measure	
326	Max ringer/alarm volume (dB)	measure	
327	M rating (Hearing Aid Compatibility)	measure	<i>M rating corresponds to interference of Mobile phones with hearing aids setted to "microphone mode". The higher the number following the 'M' the clearer the sound should be.</i>

² Please note that the vocabulary is intended to be dynamically changing. For this reason the version implemented on the EASTIN system may differ from the one reported on this document. If you wish to suggest new items for the vocabulary please write an email to info.it@eastin.info

328	T rating (Hearing Aid Compatibility)	measure	<i>T rating corresponds to interference of mobile phones with hearing aids setted in "t-coil mode". The higher the number following the 'T' the clearer the sound should be.</i>
12	Power sources	cluster	
13	Battery - disposable	attribute	
14	Battery - rechargeable	attribute	
15	Mains electric	attribute	
16	Power via USB	attribute	
17	Activation methods	cluster	<i>How the device (or software) is activated</i>
18	Electro Myo Graphic Signal (EMG)	attribute	
19	Eye blink	attribute	
20	Acoustic	attribute	
21	Eye gaze	attribute	
22	Speech Recognition	attribute	
23	Mechanical (push, pull, grasp,...)	attribute	
24	Sip/Puff	attribute	
25	Tilt	attribute	
57	Browsers	cluster	<i>Type of browser supported by the device or software</i>
58	Chrome	attribute	
59	Firefox	attribute	
60	Internet Explorer	attribute	
61	Safari	attribute	
62	Opera	attribute	
63	Languages	cluster	
64	Danish	attribute	
65	Dutch	attribute	
66	English	attribute	
67	French	attribute	
68	German	attribute	
294	Greek	attribute	
295	Italian	attribute	
296	Portuguese	attribute	
297	Spanish	attribute	
298	Bulgarian	attribute	
299	Czech	attribute	
300	Estonian	attribute	
301	Finnish	attribute	
302	Hungarian	attribute	
303	Latvian	attribute	
304	Lithuanian	attribute	
305	Maltese	attribute	
306	Other European Languages	attribute	
307	Polish	attribute	
308	Romanian	attribute	
309	Slovak	attribute	
310	Slovenian	attribute	
311	Swedish	attribute	
330	Irish	attribute	
332	Non European Languages	attribute	
69	Display characteristics	cluster	
70	Black/white display	attribute	
71	Colour display	attribute	
72	3D	attribute	
73	Linguistic representations	cluster	
74	Sign language	attribute	
75	Braille	attribute	
76	Alphabetic	attribute	
77	Symbolic	attribute	
78	Simplified	attribute	
79	Output devices	cluster	<i>Output devices (or software components) the product</i>

			<i>includes or is designed to be used with</i>
80	Speakers/headphones	attribute	
81	Printer	attribute	
82	Visual screen/display	attribute	
83	Tactile display	attribute	
84	Vibrator	attribute	
85	Voice synthesis	attribute	
86	Recorded sound	attribute	
87	Environmental control devices	attribute	
89	Functionalities	cluster	
91	Word prediction/completion	attribute	
92	Spell correction	attribute	
93	Abbreviation expansion	attribute	
94	Highlights each word/sentence as it is read aloud	attribute	
95	Allows creation of macro function	attribute	
96	Programmable/configurable	attribute	
97	Calendar function	attribute	
98	Reminder	attribute	
100	Portable	attribute	
101	Built-in microphone	attribute	
102	Speech or acoustic signals on menus	attribute	
103	Switch controlled scanning	attribute	
104	Input devices	cluster	<i>input devices (or software components) the product includes or is designed to be used with</i>
105	Joystick	attribute	
107	Keys/keyboard	attribute	
108	Chording keyboard (e.g. Braille keyboard)	attribute	
109	Mouse	attribute	
110	Speech recognition	attribute	
111	Switch	attribute	
112	Touch screen	attribute	
113	Track pad (touch pad)	attribute	
114	Trackball	attribute	
115	Movement tracking system	attribute	
116	Eyegaze control system	attribute	
117	Video camera/webcam	attribute	
118	Microphone	attribute	
119	Accelerometer	attribute	
120	Biosignals sensor (EMG, EOG, EEG)	attribute	
121	Input adjustments	cluster	<i>Available adjustments or filtering options for the input devices (or software components)</i>
122	Speed	attribute	
123	Controls/keys activation delay	attribute	
124	Type of scanning	attribute	
125	Sensitivity	attribute	
126	Scanning speed	attribute	
127	Size of controls/keys	attribute	
128	Number of controls/keys configuration	attribute	
129	Font size on controls/keys	attribute	
130	Colour of controls/keys	attribute	
131	Filter on repeated activations	attribute	
132	Key repeat rate	attribute	
133	Microphone sensitivity	attribute	
134	Output adjustments	cluster	<i>Available adjustments or options for the output devices (or software components)</i>
135	Enlargement/zoom	attribute	
136	Font size	attribute	
137	Contrast	attribute	

138	Colours	attribute	
139	Image reversal	attribute	
140	Equalization control	attribute	
141	Volume	attribute	
142	Sound feedback	attribute	
329	Image freeze	attribute	
143	Connectivity	cluster	<i>How the device (or software component) connects to other devices or services</i>
144	PS2	attribute	
145	Serial	attribute	
146	USB	attribute	
147	Bluetooth	attribute	
148	Infrared	attribute	
149	Jack	attribute	
150	Other wireless	attribute	
151	WiFi	attribute	
152	Cloud or internet based application	attribute	
153	Induction loop	attribute	
154	Inductive coupling	attribute	
157	Software license policies	cluster	
158	Free and open source software	attribute	
159	Proprietary	attribute	
160	Software price policies	cluster	
161	Free of charge	attribute	
162	Bundled with operating system	attribute	
331	Priced	attribute	
315	Operating systems	cluster	
316	Windows	attribute	
317	Mac OS	attribute	
318	Linux	attribute	
319	Chrome OS	attribute	
320	iOS	attribute	
321	Android	attribute	
322	Windows mobile/phone	attribute	
323	Symbian	attribute	

163	Subdivisions	cluster	<i>EASTIN Subdivisions of the ISO 9999 classification</i>
164	Stationary image-enlarging reading apparatus	attribute	<i>Stationary system that displays an enlarged image of the subject that has been captured by a video camera</i>
165	Stationary image-enlarging reading apparatus with connection units for computers	attribute	<i>Stationary system, with connection unit for computer, that displays an enlarged image of the subject that has been captured by a video camera</i>
166	Portable image-enlarging reading apparatus	attribute	<i>portable system that displays an enlarged image of the subject that has been captured by a video camera</i>
167	Accessories for image-enlarging reading apparatus	attribute	<i>Accessories for image-enlarging reading apparatus, e.g. XY-tables.</i>
169	Concha/in-the-ear hearing aids	attribute	<i>Hearing aids placed in the outer part of the ear canal (concha). Allows room for controls in the hearing aid.</i>
170	Completely in-the-canal hearing aids	attribute	<i>Hearing aids placed in the ear canal. No controls on the apparatus.</i>
172	Behind-the-ear hearing-aids	attribute	<i>Behind-the-ear hearing-aids with an output <= 132 dB SPL</i>
173	Power behind-the-ear hearing-aids	attribute	<i>Behind-the-ear hearing-aids with an output > 132 dB SPL</i>
175	Voice amplifiers for personal use	attribute	<i>Devices for increasing the volume of a person's voice.</i>
177	Electric typewriters without memory	attribute	<i>Electric typewriters without memory</i>
178	Electric typewriters with memory	attribute	<i>Electric typewriters with memory</i>
179	Braille typewriters	attribute	<i>Manual Braille typewriters.</i>
180	Stenotype machines	attribute	<i>Manual stenotype machines punching Braille on a paper strip.</i>
181	Electric Braille typewriters	attribute	<i>Stationary electric Braille typewriters.</i>

183	Word-processing software	attribute	<i>Standard and specially designed word processing software and accessories for word processing software. Included is also integrated software with word processing.</i>
184	Desktop publishing software	attribute	<i>Software for layout and desktop publishing.</i>
186	Equipment for recording and/or replaying digital books	attribute	<i>Hardware devices for recording and/or replaying digital books, e.g. in DAISY format.</i>
187	Digital note recorders	attribute	<i>Note recorders and dictaphones, recording in digital format. With internal and/or external memory.</i>
188	Cassette recorders	attribute	<i>Tape recorders for recording and/or replaying cassette tapes. Included are note recorders and dictaphones with mini cassettes.</i>
189	Accessories for recording and/or replaying sound	attribute	
191	Real time captioning systems	attribute	<i>Hardware or software systems for decoding spoken output to provide video captions</i>
192	Delayed captioning systems	attribute	<i>Hardware or software systems that allow to prepare captioning in advance (not in real time)</i>
193	Captioning services	attribute	
195	Infrared (IR) systems for audio information	attribute	<i>Devices for receiving or transmitting audio information using infrared light; Included are, e.g., systems, transmitters and receivers for local one-way communication, e.g. personal remote voice transmission and voice transmission systems for auditorium.</i>
197	Induction-loop amplifiers	attribute	<i>Loop amplifiers using electromagnetic waves to transmit audio information to hearing aids. Designed for use in one or more rooms.</i>
198	Small induction-loop amplifiers	attribute	<i>Amplifiers for small loops, designed for one person. Included are, e.g., pillow loops, neck loops and clip-on equipment transmitting audio magnetically by using the pick-up loop inside the users hearing aids.</i>
199	Induction-loops	attribute	<i>Passive induction-loops without built-in amplifiers.</i>
201	Symbolic voice output communication devices	attribute	<i>Communication devices consisting of a touch-sensitive screen divided into a given number of fields. When activating a field an auditive output with digital or synthetic speech is produced.</i>
202	Alphabetic communication devices	attribute	<i>Writing based communication devices with a standard keyboard. Features screen output, synthetic speech output or printed output.</i>
204	Face-to-face communication software	attribute	<i>Software that allow a computer or a mobile device (smart phone, PDA, tablet, and other) to work as a communicator.</i>
205	Tools for developing grids for communication software	attribute	
207	Mobile telephones	attribute	<i>Mobile phones used for wireless calls on the public mobile network.</i>
209	Telecommunication and telematics software	attribute	<i>Software, specifically designed for person with motor, sensory or cognitive disability, for verbal and visual communication between computers via the computer network</i>
210	Voice over IP Services	attribute	
212	Indicators with visual signal	attribute	<i>Devices that indicate with light or other visual signal that something is happening in the place where the transmitter is; they can transform, e.g. audible signal to visual signal; Included are, e.g., electronic babysitters, door signals, door signal indicators and door warners.</i>
214	Indicators with acoustic signals	attribute	<i>Devices that indicate with sound that something is happening in the place where the transmitter is; they can transform, e.g., visual signal to audible signal or they can increase the volume of a normal device; Included are, e.g., rain indicators and computer-signal indicators.</i>

216	Indicators with mechanical signals	attribute	<i>Devices that indicate with tactile signal that something is happening in the place where the transmitter is; they can transform, e.g. audible or visual signal to vibration or other tactile signal; Included are, e.g., indicating devices with vibration.</i>
218	Calendar software	attribute	<i>Software designed to help users to manage daily life. Included are also software or equipment for mobile phones, paging receivers etc.</i>
219	Electronic calendars	attribute	<i>Devices designed to help users to manage daily life. Usually, featuring a watch or maybe a calendar and telling the user when an activity is about to begin. The device may be stationary, portable or of pocket size. Output is available as text, speech, sound or symbols.</i>
221	Memory support products	attribute	<i>Devices for notifying or reminding a person about people, important activities or events of daily life; Included are, e.g., medication reminders, portable memo pads, memory support notebooks, talking picture systems and timed reminder systems.</i>
223	Activity monitoring systems without personal identification	attribute	<i>Alarm systems not featuring identification. The alarm is activated when a person leaves a certain area.</i>
224	Remote video monitoring systems	attribute	
225	Satellite navigation systems	attribute	<i>Monitoring and positioning systems that operate via satellite navigation. Included are, e.g., global positioning systems (GPS).</i>
227	Digital documents readers	attribute	<i>Software based systems able to transform digital documents (e.g. text files) into voice output</i>
228	Digital document reading (text to speech) service	attribute	<i>Web based services that transform digital documents into audio files</i>
230	Paper documents reading devices	attribute	<i>Hardware systems that transform the text written in paper document into alternative forms (e.g. enlarged text, synthetic speech, or tactile).</i>
231	OCR software	attribute	<i>Software used for the scanning and recognition of documents. Included is e.g. OCR software with text-to-speech technology.</i>
232	Portable scanner with electronic dictionary	attribute	<i>Portable devices featuring dictionary lookup.</i>
234	Braille note taking devices	attribute	<i>Electric portable note taking devices with Braille reading line</i>
236	Software interfaces for computers and mobile devices	attribute	<i>Complete software interfaces to facilitate the use of personal computer or mobile devices (e.g. tablet pc, smart phones).</i>
237	Operating systems	attribute	
239	Web browsers	attribute	<i>Web browsers with special features (e.g. voice output) to navigate the web.</i>
241	Keyboards with a special design	attribute	<i>Keyboards including e.g. enlarged and miniaturized keyboards, headpointer keyboards, ergonomic keyboards and one-hand keyboards.</i>
242	Programmable (concept) Keyboards	attribute	<i>Touch-sensitive programmable boards which can be divided into different numbers and sizes of active areas (keys). Each active area can be programmed to perform different actions.</i>
243	Keyboard shields and keyboard gloves	attribute	
244	Programmable keyboard configuration tool	attribute	<i>Software tools that allow to configure programmable keyboard and or to print overlay</i>
246	Software for accessing the computer in scanning mode	attribute	<i>Software that can be used, in combination with a switch, to control the computer in scanning mode.</i>
247	Eyegaze systems	attribute	<i>Systems that allow to control a computer, or other devices, through gaze</i>
248	Speech recognition software	attribute	<i>Software for command and control or text input to computers by speech (speech-to-text programs).</i>
249	Optical scanner, stationary	attribute	<i>Stationary devices that can transform text or illustrations printed on paper into an electronic format.</i>

250	Optical scanner, hand held	attribute	<i>Handheld devices that transform text or illustrations printed on paper into an electronic format.</i>
251	Datagloves	attribute	<i>Glove fitted with sensors, which records the movements of different parts of the glove and translates the movement to an input.</i>
252	EEG, EOG or EMG controlled input devices	attribute	<i>Input devices controlled by electric signals activated by brainwave signals (EEG), by facial muscle movements (EMG) or by eye movements (EOG).</i>
254	Switch interface	attribute	<i>Interface to connect switches to a device, to allow, for example, the control in scanning mode.</i>
255	Accessories for input devices	attribute	<i>Accessories used together with different types of input devices. Included are, e.g., adaptors, cables, boards, multi ports and joysticks.</i>
257	On screen keyboards	attribute	<i>Software applications that reproduce the keyboard on the device screen</i>
258	Mouse control software	attribute	<i>Software that allow controlling the mouse movement and/or click functions.</i>
259	Word prediction and word completion software	attribute	<i>Software designed to facilitate typing by completing words and/or predicting the next word in a sentence</i>
260	Software for adjusting input devices response	attribute	<i>Software that allow to modify the functioning and behavior of input devices (e.g. mouse, keyboard, switches, ...) through adjustments and filtering (e.g. filtering out involuntary repeated keypress, or allowing "hot keys" and "short cuts")</i>
261	Software based electronic dictionaries	attribute	<i>Electronic dictionaries working as independent programs or in conjunction with other software e.g. word processing software programs. Included are e.g. spelling dictionaries, foreign language dictionaries etc. Included are also picture-, symbol-, and sign language dictionaries.</i>
262	Computer based sound collections	attribute	<i>Collections of recorded words and sound effects for computers.</i>
264	Touch screens	attribute	<i>Touch screens consist of a touch sensitive display, divided into fields. The size, number and function of the fields can be customized.</i>
265	Trackballs, mousetrappers and touchpads	attribute	<i>A trackball in an upside-down mouse that rotates in place within a socket. The user rolls the ball to direct the cursor to the desired place on the screen. When using mouse trappers and touch pads movement of the finger produces a corresponding cursor movement.</i>
266	Traditional mouse devices and pen mouse devices	attribute	<i>Controlled by one hand. The mouse pointer is controlled by moving the mouse device on a given surface.</i>
267	Joystick mouse device	attribute	<i>Mouse devices with a joystick. Used to control the mouse pointer. Included are also mouth controlled joysticks.</i>
268	Switch operated computer mice	attribute	<i>Type of computer mouse where you can control all the mouse functions through switches.</i>
269	Computer and console joysticks	attribute	<i>Input devices, e.g. controllers, for playing electronic games on pc, Mac, Playstation, Nintendo, Xbox, or other platforms.</i>
271	Computer monitors	attribute	<i>Monitors for desktop computers.</i>
272	Screen filters	attribute	<i>Filters for computer monitors reducing specular reflection.</i>
274	Braille displays	attribute	<i>Displays converting text to Braille.</i>
276	Speech synthesizers	attribute	<i>Hardware or software system able to generate artificial human speech, also known as Text to Speech system</i>
278	Magnifying software	attribute	<i>Software that enlarges the text and graphics displayed on the screen of a computer or other electronic devices. May feature screen reading, colour choice and focus enhancement etc.</i>
279	Screen reader software	attribute	<i>Software that interpret what is being displayed on the screen and present it to the user with text-to-speech, sound icons, or a Braille output device.</i>

280	Software for adjusting color combination and text size	attribute	<i>Software that allow adjusting the color of text, background, images and other elements displayed on the screen, and/or to adjust the font size, to improve visualization.</i>
281	Software to modify the pointer appearance	attribute	<i>Software to modify the size, color, and/or shape of the pointer on the screen</i>
283	Single switches (switches with only one function)	attribute	<i>On/off switches (0/1 switches) which can be activated in different ways e.g. push activated, touch activated or sound activated etc. Single switches are used to control different products/assistive products.</i>
284	Two-four function control switches	attribute	<i>Switches controlling two to four functions.</i>
285	Five-or-more-function-contacts	attribute	<i>Five-or-more-function-contacts or wafer or star switch joysticks, where the function is similar to that of a digital joystick.</i>
287	Remote controller	attribute	
288	Receiver unit for environmental control	attribute	
289	Switch latches and timers	attribute	<i>Units controlling high current and low current devices with single switches.</i>
291	Environmental control software	attribute	<i>Software, standard or specifically designed, for controlling devices and automation systems.</i>
293	Software for composing music	attribute	<i>Software that allows a person to read and or compose music</i>
312	Body movement controlled mice	attribute	<i>Hardware devices that, using special sensors (e.g. video cameras, accelerometers, ...), allow to control the mouse functions by moving a body part (e.g. the head)</i>
324	Tools and components for development of software products	attribute	<i>Tools and components for the development of accessible applications and assistive technology software products and services. Included are, for example, authoring tools for the development of accessible user interfaces</i>