Objective:
The objective of this specification is to help organizations in procuring good quality mechanical braille typewriter that are durable and which assist the individuals with communicating in braille.
1. Product description

The purpose of this section is to provide specific key details relevant to the assistive product so that it is easily identifiable.

<table>
<thead>
<tr>
<th>Purpose of 1.1</th>
<th>Name of product as per WHO priority APL and/or commonly used names.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Name of product</td>
<td>Mechanical Braille Typewriter. Hereinafter referred to as ‘Brailler’.</td>
</tr>
<tr>
<td>Purpose of 1.2</td>
<td>As per ISO 9999 classification and terminology document (refer <a href="https://www.iso.org/standard/60547.html">https://www.iso.org/standard/60547.html</a>).</td>
</tr>
<tr>
<td>1.2 ISO 9999 code</td>
<td>22 12 15 Typewriters</td>
</tr>
<tr>
<td>Included in 221215 are, e.g. manual, electric, talking and Braille typewriters, typewriters with memory.</td>
<td></td>
</tr>
<tr>
<td>Purpose of 1.3</td>
<td>Describes the product type in clear, simple, easily understood language and the intended use in addressing functional needs.</td>
</tr>
<tr>
<td>1.3 Description and intended use</td>
<td>Braille typewriter is a mechanical (hand operated) writing device used for writing Braille on paper by pressing related keys, reading, and math from early learning through adulthood. The device is intended to support communication for the blind, by making it easier for both visually impaired users and Braille transcribers to write Braille.</td>
</tr>
<tr>
<td>Purpose of 1.4</td>
<td>Refers to general characteristics of the assistive product that describes its appearance and components.</td>
</tr>
<tr>
<td>1.4 General features</td>
<td>A typewriter with hard casing and ergonomically designed key pad with 6 braille keys, one space key, one backspace key, and one-line changing key. It indents braille letters into braille paper that is inserted into the typewriter when pressing on one of the 6 braille keys.</td>
</tr>
<tr>
<td>Purpose of 1.5</td>
<td>Refers to product models that are included in the specific APS.</td>
</tr>
<tr>
<td>1.5 Inclusion</td>
<td>Mechanical braille typewriters such as perkins, tatrapoint and eurotype braille typewriters.</td>
</tr>
<tr>
<td>Purpose of 1.6</td>
<td>Refers to product models that are excluded in the specific APS.</td>
</tr>
<tr>
<td>1.6 Exclusion</td>
<td>Extension keys are excluded; also excluded are Electric Brailler, Electronic Brailler, Unimanual Brailler, Large Cell Brailler, Smart Brailler.</td>
</tr>
<tr>
<td>Purpose of 1.7</td>
<td>Important, searchable words that relate to the specific assistive product.</td>
</tr>
<tr>
<td>1.7 Keywords</td>
<td>Braille writing; Keys; Knobs; Braille reading</td>
</tr>
</tbody>
</table>

2. Product requirements

The purpose of this section is to provide details of all applicable requirements relative to the specific assistive product. A requirement is mandatory and typically describes what a product should be able to do, how it should appear (product and packaging) etc. Only supply and service requirements considered applicable in procurement of mechanical braille typewriter.

2.1 Functional requirements

| Purpose of 2.1 | A functional requirement refers to technical details and other specific functionality that define what a product variation is supposed to accomplish. Per product variation, the requirement should describe the typical user, specific characteristics of the product (in addition to the general features above) as well as the requirements for standard configuration of the product. It is important to focus on performance requirements rather than form factors. It is important to have a clear and specific description of the typical users including e.g. health condition, functional limitation or demographics (range of age, body weight, |

1
height, etc). If applicable, specific context of use (e.g. indoor/outdoor, in noisy environment, etc) should be specified in the product variations.

<table>
<thead>
<tr>
<th>Item</th>
<th>Product variations</th>
<th>Typical user</th>
<th>Specific characteristics</th>
<th>Requirements for standard configuration</th>
</tr>
</thead>
</table>
| 1    | Perkins Braille typewriter Standard | Visually impaired | Metal casing, with ergonomically designed key pad with 6 braille keys, one space key, one backspace key, and one-line changing key. | Metal casing  
Closed body architecture restricting dust accumulation  
Braille dots to be even  
42 cells per line with up to 30 lines per page  
Six Braille keys, each corresponding to one of the six Braille dots; one Space key, one Backspace key, one Line Changing key  
Braille Paper, maximum size –11.5” × 14” (29.21c.m x 35.56cm)  
Recommended Braille paper weight: 90 lbs (146.48 gsm)  
Brailler Functions:  
Key Pad: Ergonomic design for ease of typing  
Margins: Full right & left margin adjustment to accommodate the given paper size and line centering  
Bell: Audible bell sounds, 7 spaces before end of line  
Carriage: Carriage release, full horizontal movement between margin stops  
Dot Specification:  
Dot height – 0.019” (0.048cm)  
Dot diameter –0.057” (0.144 cm)  
Dot Spacing – 0.09” (0.228cm)  
Character spacing – 0.24” (0.609cm)  
Line spacing – 0.4 “(1.016cm) |
| 2    | Tatrapoint 1 Adaptive | Visually impaired | Six keys, light, robust and easy to use. Equipped with a customizable keyboard. Easy to slide the width of the buttons to adjust. | Adjustable left and right margins  
Bell sounds 5 cells for line break  
Return key and key line jump  
Precise alignment of the corrections in the previously written text  
Paper: Standard Braille paper |
| 3    | Eurotype Brailler | Visually impaired | A modern solid mechanical 6-dot-braille writer | 6-dot braille  
left and right margin adjustable  
key stop at line end  
acoustic signal 6 characters before line end margin release key  
backspace key  
line space key  
2-line spaces to choose from |
<table>
<thead>
<tr>
<th>Purpose of 2.2</th>
<th>Brief and clear description of general product performance requirements and overall qualities (e.g. stability, strength, durability, waterproof, etc).</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2 General design requirements</td>
<td>Brailler must be durable, easy to operate, be upward writing (dots on the same side of paper), much less fatiguing as compared to Slate and Stylus, parts easily replaceable, as and when required.</td>
</tr>
<tr>
<td>Purpose of 2.3</td>
<td>Details of existing or in-progress national or international standards should be provided here, whether freely or commercially available.</td>
</tr>
<tr>
<td>2.3 Standards</td>
<td>Braillers must comply with and be tested according to recognized international features/regulations, as mentioned at 1.4 above. Tests must be carried out by accredited personnel.</td>
</tr>
<tr>
<td></td>
<td>If Braillers do not comply with or are not tested according to relevant international features/regulations, an explanation must be provided. Documents supporting that Brailler is safe and effective for use by the typical user must be provided.</td>
</tr>
<tr>
<td></td>
<td>All documentation must be in English or in the language of the concerned country.</td>
</tr>
<tr>
<td>Purpose of 2.4</td>
<td>A certificate of conformity confirms that a product conforms to applicable national and/or international regulations. If a certificate is required for the specific assistive product, this information should be requested, e.g., CE (Europe), COC (Japan), GCC (USA).</td>
</tr>
<tr>
<td>2.4 Certificate of conformity</td>
<td>The supplier must provide a certificate to the effect that the product conforms fully to the standards mentioned at 2.3 above in this call for tender and is safe and effective for use by the typical user. The certificate must specify the product, all applied standards and the name and contact information of the supplier and be provided with the tender. The certificate of Conformity is a legal document and must be signed by an authorized person on behalf of the supplier. The Certificate must be supplied in English or in the language of the concerned country.</td>
</tr>
<tr>
<td>Purpose of 2.5</td>
<td>Lists the relevant scope of information required to identify the appropriate size and weight of the assistive product in its standard configuration (specific dimensions may be given if appropriate).</td>
</tr>
<tr>
<td>2.5 Size and weight</td>
<td>Provide overall size and weight information.</td>
</tr>
<tr>
<td>Purpose of 2.6</td>
<td>Lists the relevant scope of information that should be provided to service providers (e.g. how to select, assemble, fit, adapt, follow up, maintain, repair, refurbish the assistive product). The desired language(s) in which the technical information should be provided should be stated.</td>
</tr>
</tbody>
</table>
2.6 Technical information (for service providers)  
Information should be provided to service providers about how to select, assemble, fit, and adapt the assistive product. Instructions on how to follow up, such as maintain, repair and refurbish the assistive product should be provided.

The technical information should be provided in the official language or in English (other languages could be specified too).

Purpose of 2.7: Lists the scope of information, and its format, that should be provided to end-users to show how to safely use the assistive product.

2.7 Instructions for use  
User Manual in both print and in Braille must be provided with the Brailler.

Purpose of 2.8: Refers to the various weather and other environmental conditions, e.g., temperatures, humidity, rain, snow, sunshine, that the assistive product should be able to withstand.

2.8 Environment of use  
Product should withstand all normal weather conditions and temperatures as also relative humidity ranging 15% to 100%.

Purpose of 2.9: Refers to the duration of the warranty period and the details of the warranty the manufacturer/supplier should provide within the specified period.

2.9 Warranty  
One Year warranty period. Qualified Repair personnel should be available. The supplier must, during the warranty period and without extra expenses repair faulty part/s or parts which break on the product delivered or replace the product if required. The same must apply for spare part/s and accessories.

Purpose of 2.10: Refers to the expected duration, in years, of the assistive product. Documents describing how this is ensured must be provided.

2.10 Lifespan  
At least ten years.

Purpose of 2.11: Lists the scope of information required in packaging and labeling the assistive product. Explains the state of assembly the assistive product should be in when received by the end-user.

2.11 Packaging, labelling, and state of assembly  
Must be packed in a sturdy carton box with packing inserts. The Carton box should carry a label clearly indicating: “Product for the blind, should be handled with care during transit”.

Purpose of 2.12: Refers to additional product requirements, depending on the specific assistive product, e.g., material, corrosion-resistance, adjustability, foldability, etc.

2.12 Other product requirements  
In the tender, the supplier must provide the following information about the Brailler:
- Cost (all inclusive)
- Full contact details of the supplier, including phone and e-mail

3. Supply and service requirements

From the information provided below, only those supply and service requirements considered applicable may be used in a procurement bid.

The purpose of this section is to describe key supply and service requirements that are needed in order to ensure that the assistive product is received in due time, operational, being maintained/repaird and refurbished.

Purpose of 3.1: Lists the scope of information to be requested on how the assistive product will be transported to the place of delivery.
### 3.1 Transportation
Information on how the Brailler will be transported must be provided and who should pay for the transportation.

**Purpose of 3.2**
Specifies the time between placing an order and receiving delivery of the assistive product (e.g. that it should not exceed 30 calendar days).

### 3.2 Delivery time
The time between placing the order for a Brailler and its delivery must not exceed 30 calendar days.

**Purpose of 3.3**
Refers to the specific details of the various accessories and spare parts available for the assistive product, including pricing and availability.

### 3.3 Accessories and spare parts
The following accessories must accompany the Brailler:
- A dustcover

All parts that the Brailler consists of, and which may be replaced at some stage, must be offered as spare parts.

Spare parts must be made available for a period of at least 5 years after the last order of a Brailler. The price of the spare parts should be offered per part and not per set or pair.

**Purpose of 3.4**
Provides information regarding required maintenance services the supplier will provide, including the timeframe and frequency.

### 3.4 Maintenance
Information about payment per hour, including definitions of when a job starts and finishes; travel expenses, from – to, fee per km, rules when several repair jobs are done on the same route; hotel bills; who should provide the spare parts; in cases the job is done by a sub-supplier, the invoice should be sent by the supplier with the contract. The prices should be according to the contract. (More information may be requested to be provided).

**Purpose of 3.5**
Provides information regarding required repairment services the supplier will provide, including the timeframe and frequency.

### 3.5 Repair
Information about payment per hour, including definitions of when a job starts and finishes; travel expenses, from – to, fee per km, rules when several repair jobs are done on the same route; hotel bills; who should provide the spare parts; in cases the job is done by a sub-supplier, the invoice should be sent by the supplier with the contract. The prices should be according to the contract. (More information may be requested to be provided).

**Purpose of 3.6**
Provides information regarding required refurbishment services the supplier will provide, including the timeframe and frequency.

### 3.6 Refurbishing
Not applicable in this call for tender.

**Purpose of 3.7**
Specifies if training service providers is required by suppliers, and the key elements included in the training (e.g. selection, assembly, fit, maintenance and repair of the assistive product). Refers to detailed training contents or materials, if available and applicable.

### 3.7 Training of service providers
The supplier should conduct a two-week (10 days) workshop for imparting training to up to 20 instructors/technicians in the concerned country in fitting, servicing, repair and maintenance of Brailleers. The cost of such workshop to be borne by the bidding country, (including air fare, as applicable, of the trainer, his/her hotel charges for 10 days and local transportation) must be indicated. Information on who would conduct training should also be provided.

**Purpose of 3.8**
Specifies if training users is required by suppliers, and the key elements included in the training (e.g. training to users should include fit, use, maintenance and cleaning of the assistive product). Refers to detailed training contents or materials, if available and applicable.

### 3.8 Training of users
Not applicable in this call for tender.

**Purpose of 3.9**
Provides information regarding other supply and service requirements.
| 3.9 Other supply and service requirements | Not applicable in this call for tender. |