

Information and advisory service about Assistive Technology



Assistive Technology



Advisory service about assistive technology



Solutions can also involve:

- Changing a technique
- Handy hints
- Adapting something around the home
- Using a service

1. Phone

Speak with a therapist

4 ways we help

2. Display Centre

1,500+ items on display

3. Website and Email

Online equipment search (6,000+ items)

4. Mobile Outreach Van

Visits communities around Tasmania

Partnership and collaboration



Partnership and collaboration

MND Tasmania offers funding for Assistive Technology and home modifications

2017 Fight MND grants available for equipment Grants required an equipment loan scheme

MND numbers in Tasmania too small to meet requirements



Partnership and collaboration

MND Tasmania collaborated with ILC Tasmania

Established and operated a limited scope equipment pool
and loan scheme

Partnership and collaboration

- Needs identification
 - Funding for library
- Support for clients and clinicians

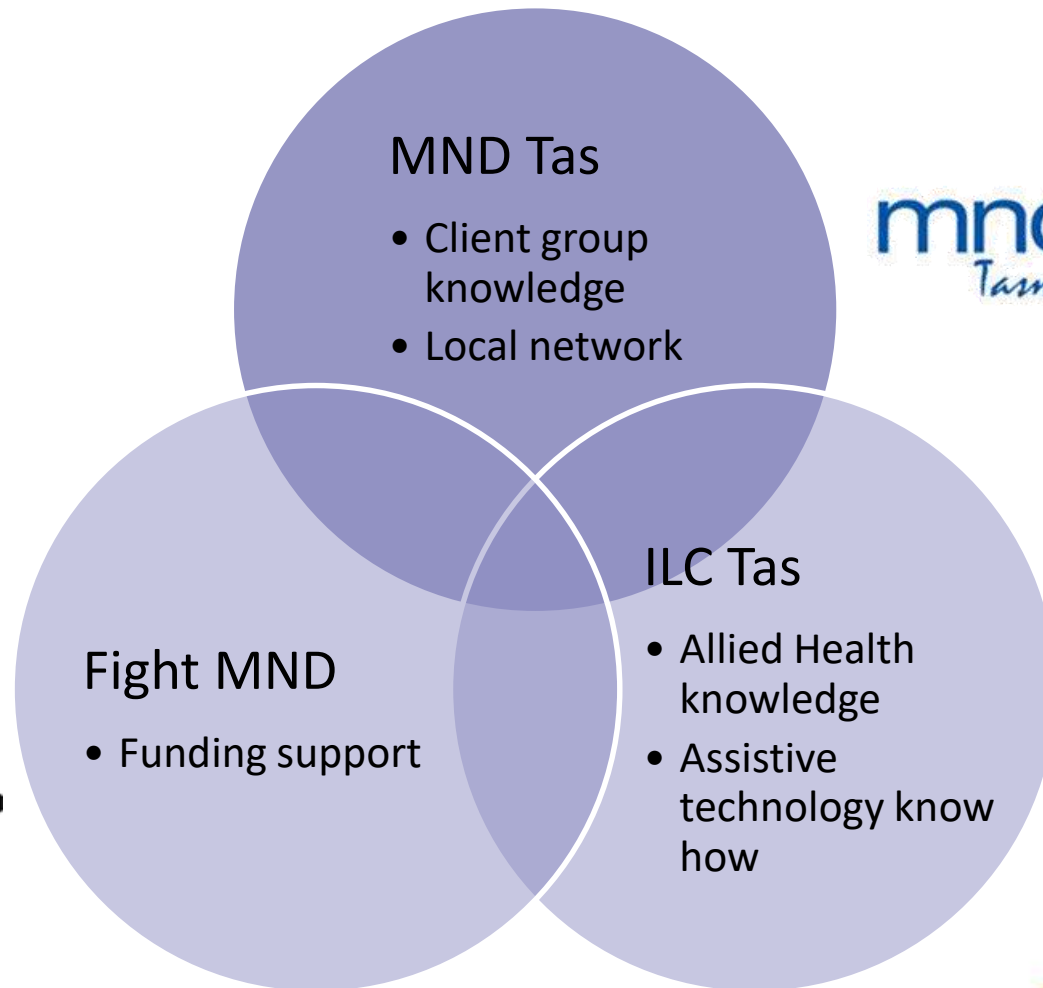
Partnership and collaboration

Communication Assistive Technology was identified as the greatest unmet need

Grant #1 high end communication devices

Grant# 2 floor and wheelchair mounts

Partnership and collaboration



**FIGHT
MND.**
IT TAKES PEOPLE



Needs Identification

- Physical access difficulties
 - Communication
- Reduce in mobility -> Social isolation

Equipment selection

- Common core platform
 - Cost
- Adapted to meet needs of different users
- Flexibility and standardisation of equipment

Equipment selection

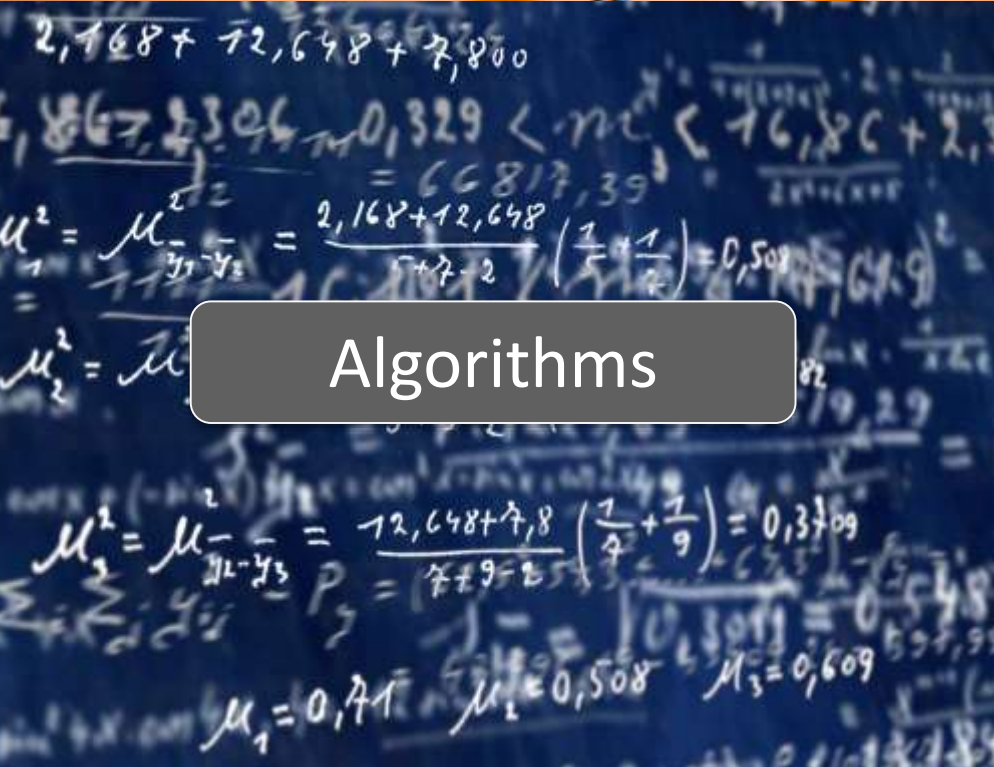




Eye gaze sensor



Computer /
communication
device



Algorithms



Software

Equipment selection



Core platform

- Computing device
- Mounting interface

User specific components

- Communication software
- Eye tracking sensor
 - Head tracker
- Switch interface
 - ECU
- Mounting

Communication system

Equipment selection



Core platform

- Computing device
- Mounting interface

Key considerations

- Modularity
- Standardisation
- Long term availability
 - Cost
- Mounting interface

Equipment selection



User specific components

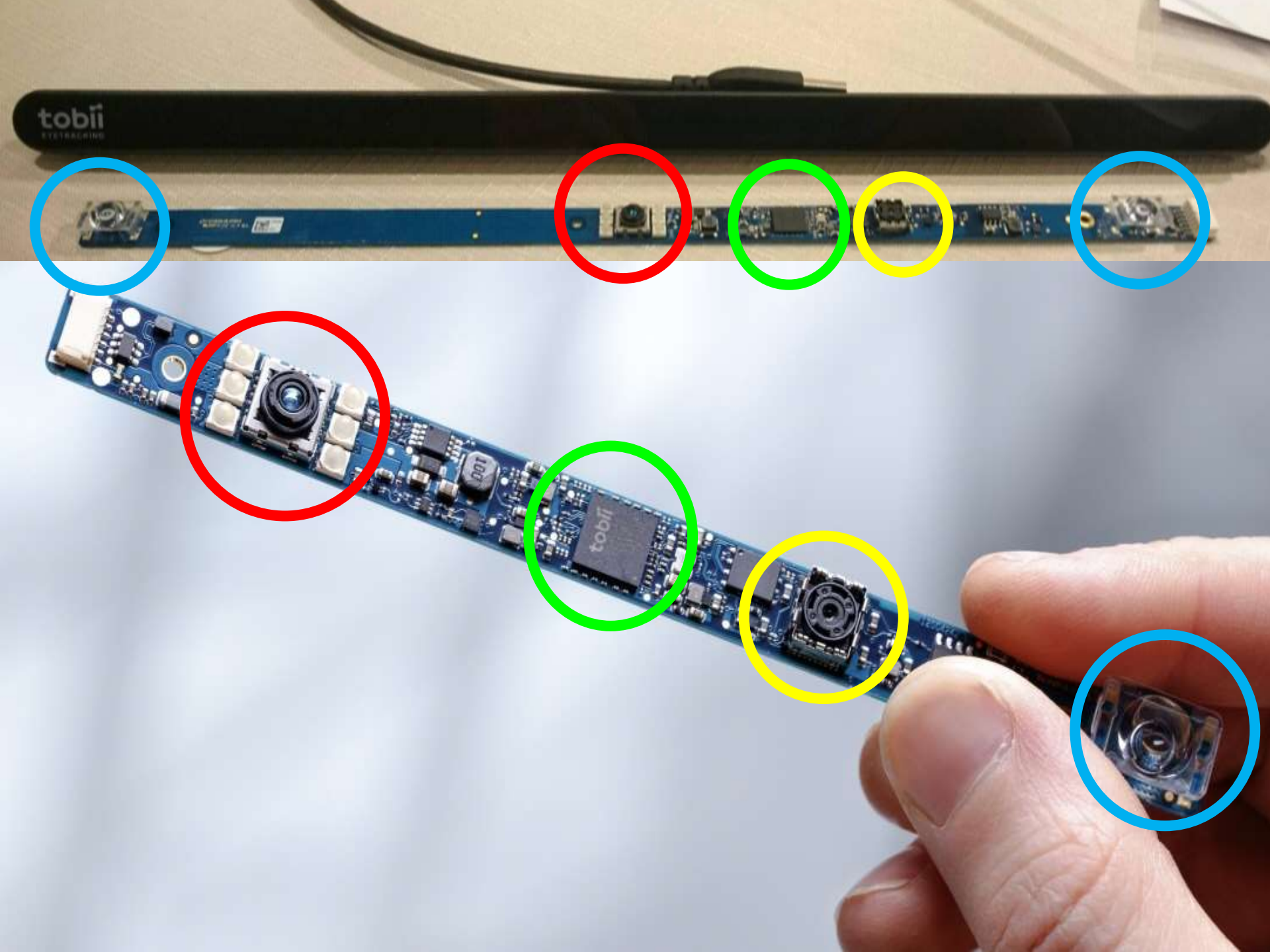
- Communication software
- Eye tracking sensor
 - Head tracker
- Switch interface
 - ECU
 - Mounting

Key considerations

- User requirements
 - Modularity
- Standardisation
 - Flexibility
 - Cost
- Mounting interface

Equipment selection

- Mainstream vs purpose built equipment
- Interface with other equipment and devices
 - Positioning of equipment



Tobii EyeCore

The world's most powerful eye tracking algorithm core.

Tobii EyeChip™ ASIC

Fully embedded EyeCore providing all the necessary algorithm processing and illumination control enabling the system to work autonomously, minimizing load on system CPU.

Illumination Module

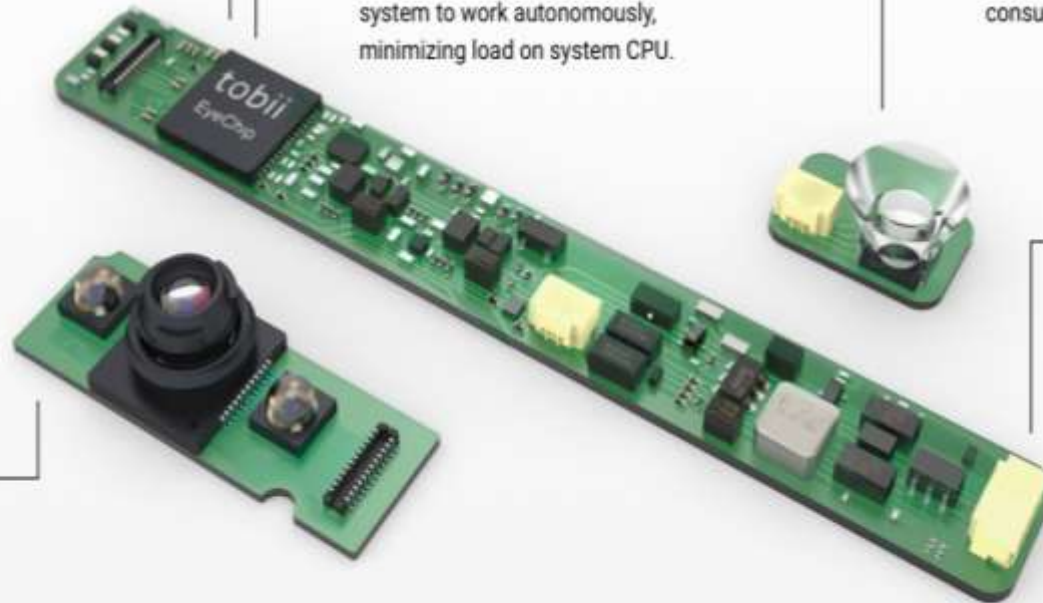
Illuminator for NIR light featuring a low-profile lens for easy integration, high efficiency and low power consumption.

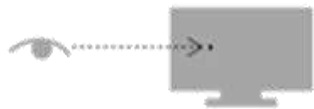
Host Interfaced Module

The central unit of the system, controlling and providing interfaces to EyeSensor Module and Illumination Module. Features a USB to the target system for easy integration.

EyeSensor Module

Custom Tobii-designed camera with high-sensitivity, high-resolution sensor optimized for eye tracking and biometrics. Includes NIR illuminators.





eye-gaze point

the point on the screen where your eyes are looking



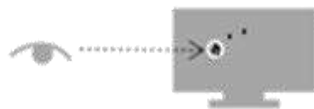
eye positions

the positions of your eyeballs relative to the screen



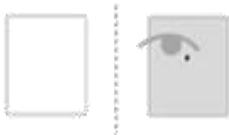
user presence

if there is a user in front of the screen or not



fixations

points on the screen where your eyes linger to focus on something



gaze-aware region

knows when the eye-gaze enters and leaves the region



activatable region

can be clicked or focused using eye-gaze



pannable region

can be scrolled or panned using eye-gaze



communicator



Mind Express 4



ilctas
easier everyday



Windows Eye Control

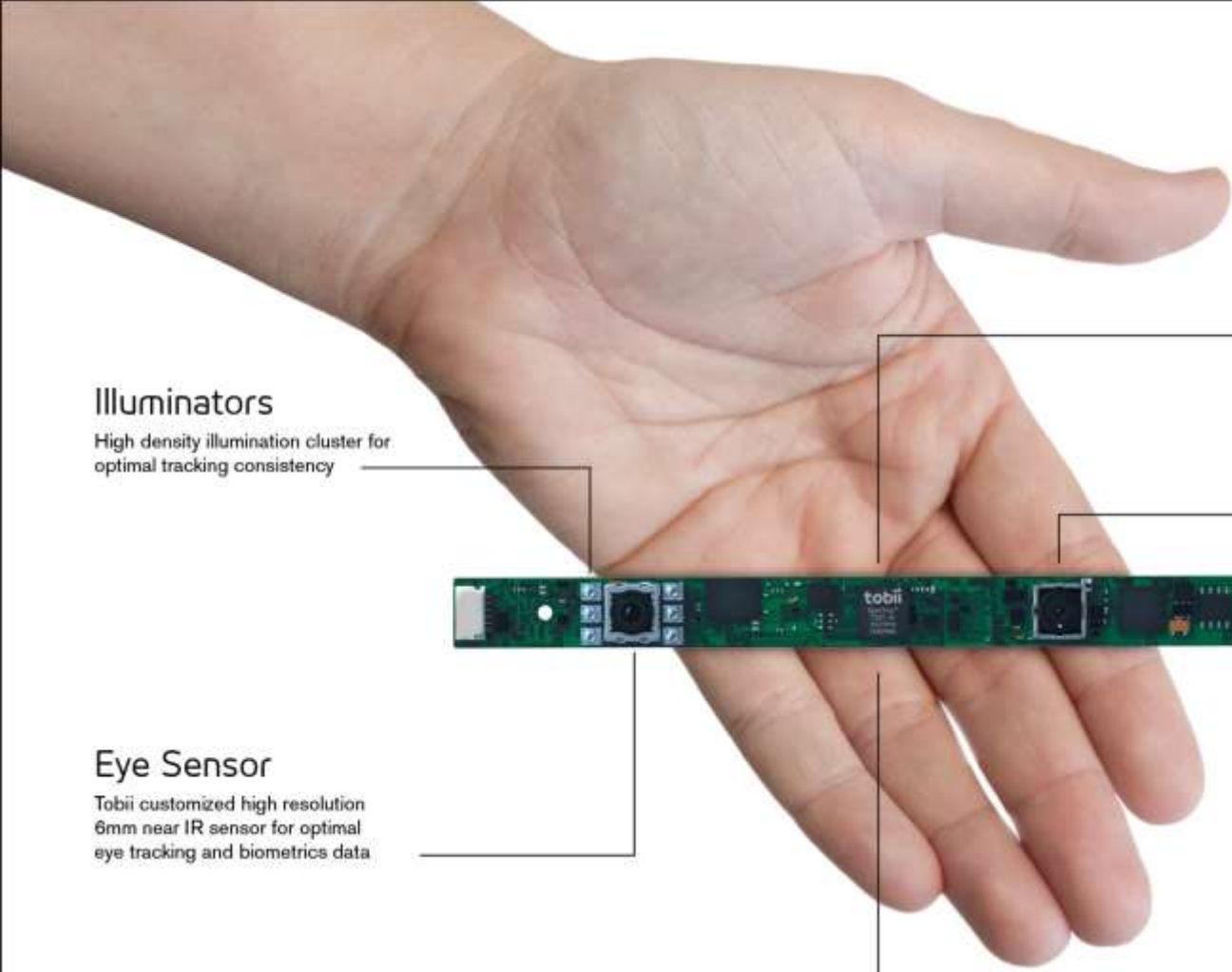
 **OptiKey**
Type · Click · Speak



**CLICK2
SPEAK**



 **ilctas**
easier everyday



Illuminators

High density illumination cluster for optimal tracking consistency

Eye Sensor

Tobii customized high resolution 6mm near IR sensor for optimal eye tracking and biometrics data

Tobii EyeCore®

The world's most powerful eye-tracking algorithm core

Eye Sensor

Low power, full scene sensor with SMIA socket. Tobii modified to enable enhanced eye tracking and multimodal functionality.

Illuminator

Next generation dual lens illuminators with 30% higher efficiency for minimized power consumption

Tobii EyeChip™ ASIC

Fully embedded EyeCore and Integrated sensor-illumination-synchronization for maximum system autonomy

Tobii IS4 components

tobii.com/oem

tobii

Solutions identified

- Mixture of mainstream and dedicated AT
- Leveraging community developed software and resources
- Mounting -> additional fund obtained via grant application

Purchasing of equipment

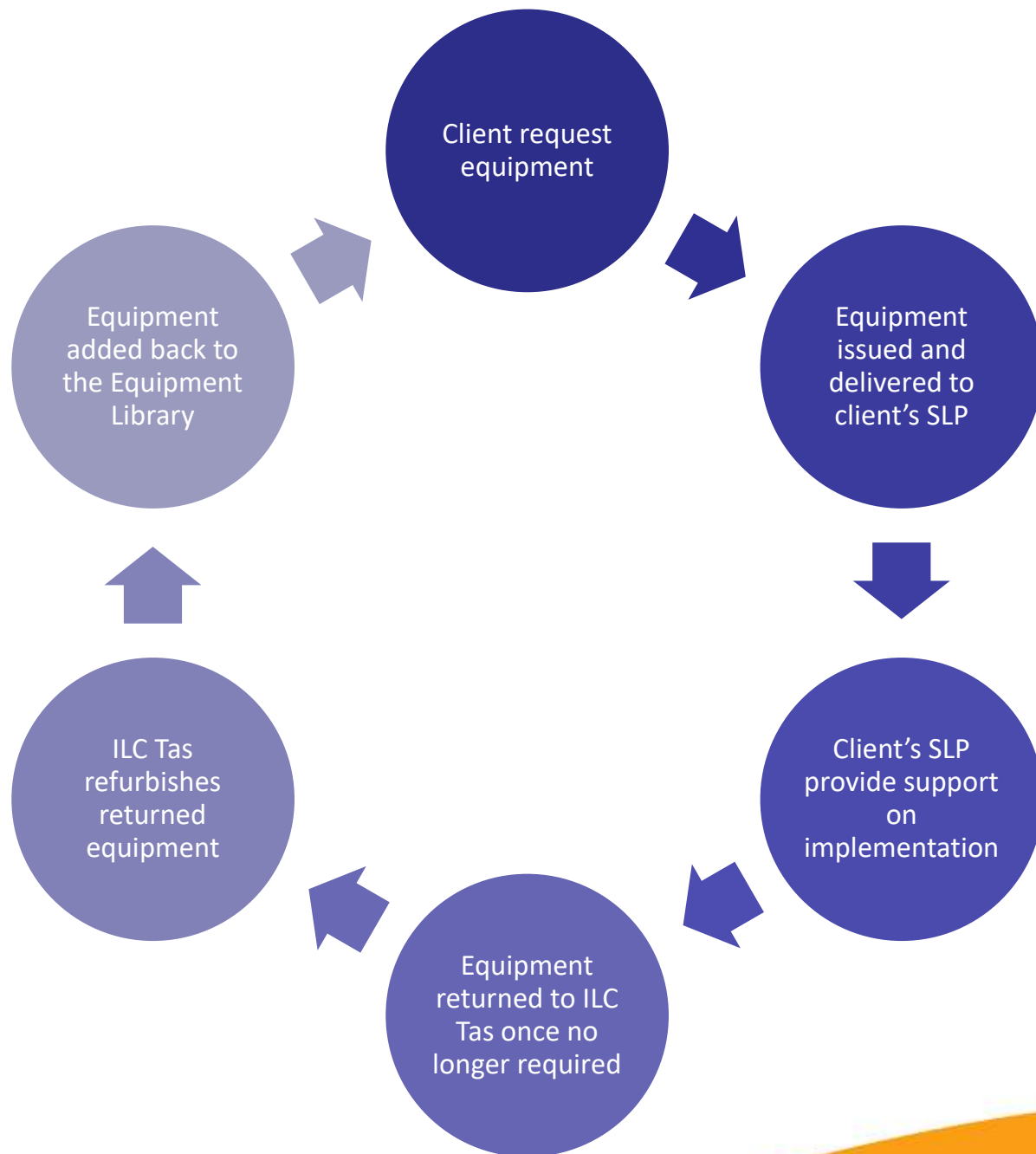
- Component sourced from local suppliers and retailers
 - Additional equipment from overseas suppliers

Accessing equipment

- Client's therapist responsible for identification of appropriate equipment
- Additional equipment added at MND Tas' discretion

Accessing equipment

- Client's therapist is responsible for identification of appropriate equipment
- Client's therapist is responsible for direct, ongoing support to client
 - ILC Tas provides additional technical support as required
- Equipment returned to ILC for refurbishment and reissue when no longer required.



Challenges

- Differing expectations from clinicians (e.g. specific equipment)
 - Delivery of equipment to client
 - Ongoing maintenance after equipment issued to client
- Having equipment returned / changed as client's needs change

Perspectives from MND Tas

Outcome:

The success and mutually beneficial outcomes realised through both the MND Tas/Fight MND and the MND Tas /ILC Tas collaborations have set a path for future productive collaborations.



Q&A