Michael Metz - 2020

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ODG Consumer Glasses

The ODG Consumer Augmented Reality Glasses were developed from the ground up, to a preproduction level for release at CES 2015.

As the lead designer and ME, it was my responsibility to integrate the optical and electrical subsystems into a classic wayfarer glasses chassis, while maintaining a minimum size, and consumer level aesthetics.

Preproduction unit as seen at CES 2015

Preproduction on display at the CES 2015 Fashion Show

Osterhout Design Group 2014

Mini AR Driving Glasses

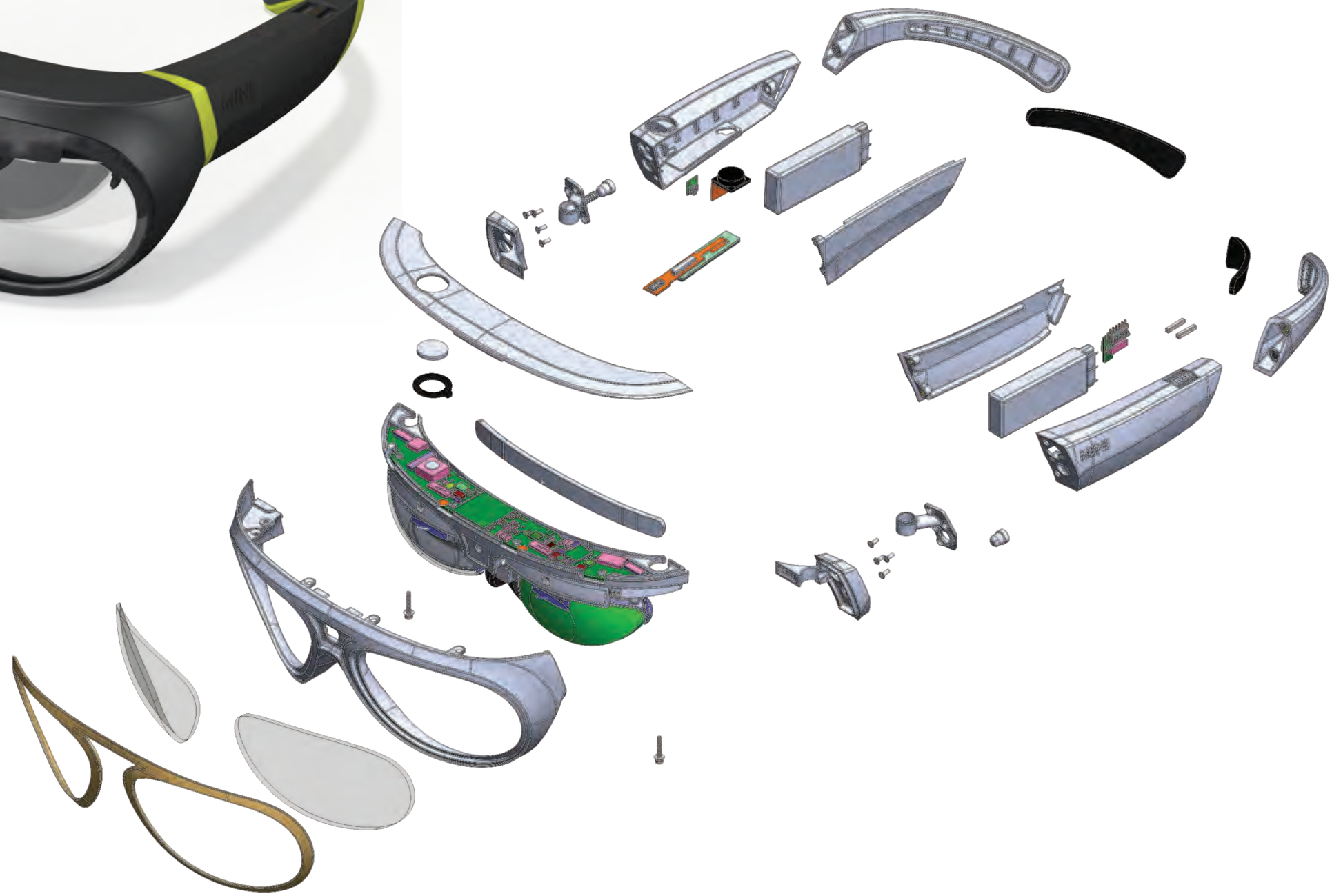
The Mini AR Driving Glasses were developed with conjuncture with BMW's Design Works.

Using the technology in ODG's current X-6S Augmented Reality glasses and the industrial design provided by Design Works. I was responsible for designing all the plastic housings to house the ODG components and working with our vendors to get them manufactured to a quality that meet BMW's 95% confidence rating.

The project was featured on all the major technology blogs when they were launched at the 2015 Shanghai Auto Show.

ODG with BMW Design Works 2014

Mini AR Driving Glasses



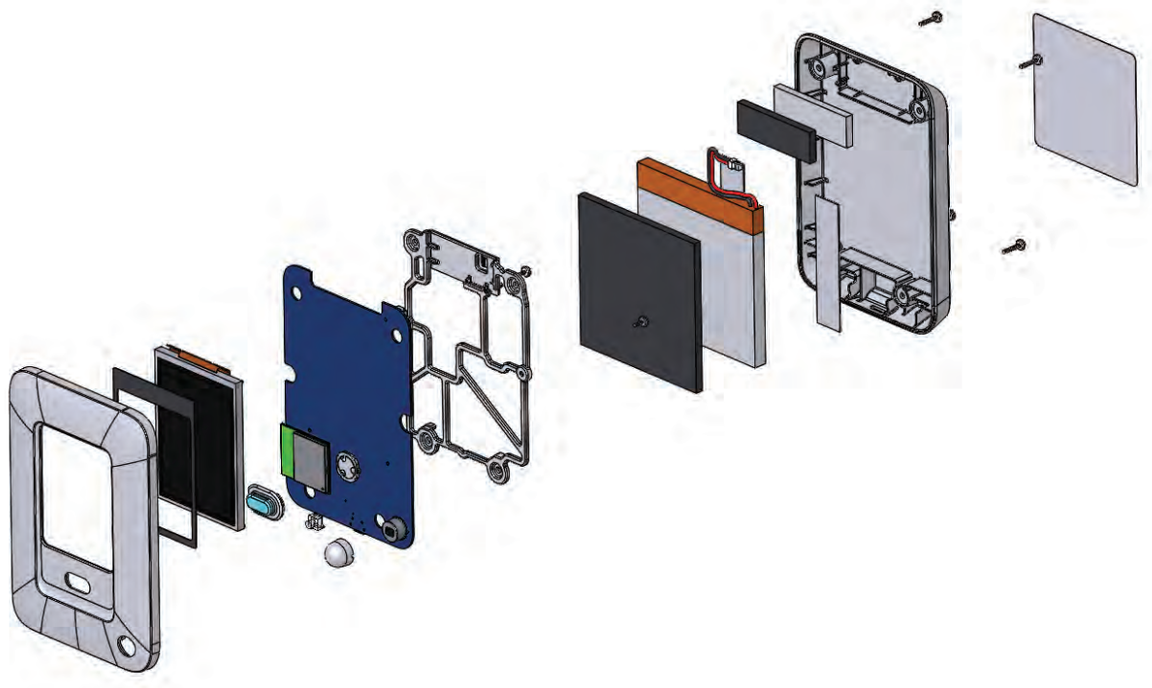
ODG with BMW Design Works 2014

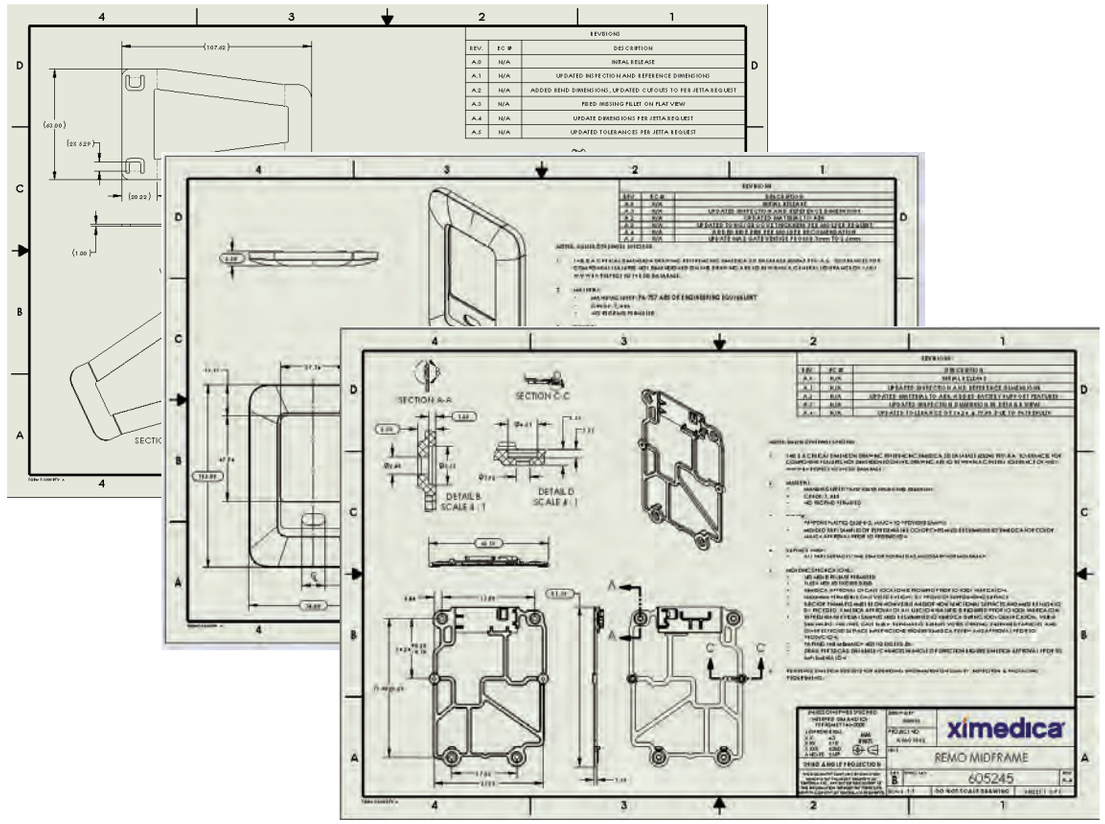
Digital Reminder

The Digital Reminder was a phase 2 prototype that was developed for a pharmaceutical company. The device could be magnetically attached to either a refrigerator, or an included stand, and would run for durations of up to 6 months, reminding the patent to remove there medication from the refrigerator, and then to take it a set time later

The on-board PIR sensor was used to wake the device only when movement was detected, to help reduce the battery size, while maintaining the 6 month runtime.

I was responsible for developing and managing the CAD database, bringing all the models to a tooling ready state, working with overseas vendors to produce first run injection molded prototypes for EV and DV testing. The main concerns were keeping COGs under $20 USD, maintaining the 6 month runtime, and drop survivability.





Ximedica Client 2018

MX 2020 and MX 2010

The MX 2020 is a Full Rack chassis developed from the ground up for Juniper Networks in tandem with the Half Rack MX 2010.

A major challenge in the development of the two chassis was the requirement to utilize a majority of components in both the 2020 and 2010 designs.

MX 2020

MX 2010

MX 2020 and MX 2010

Family Render

Universel Power Supply for both the MX 2020 and MX 2010

Line Card

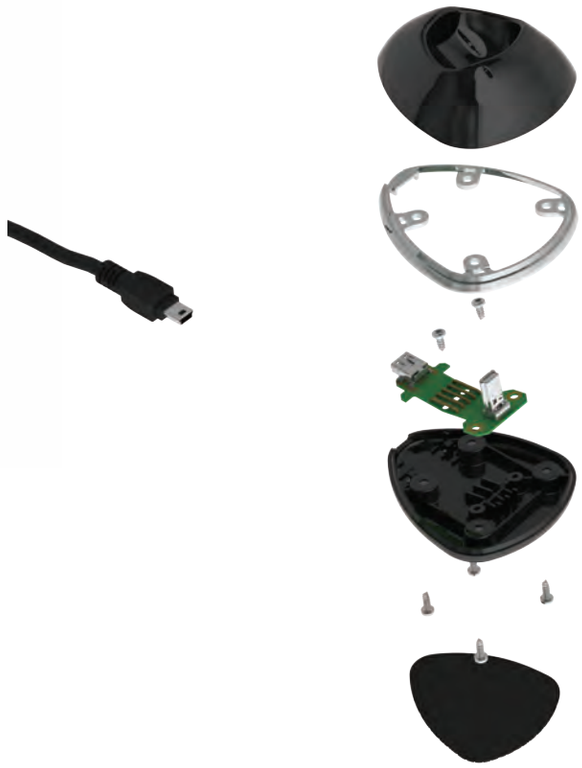
Hybrid Motion Game Controller

A concept design for a two handed Wii-Mote style game controller. This controller was used by the company to sell the technology they had developed and was only produced in a small run of fully functional cast urethane parts.

SLA prototypes

Functional cast urethane parts.

Motion Remote Control



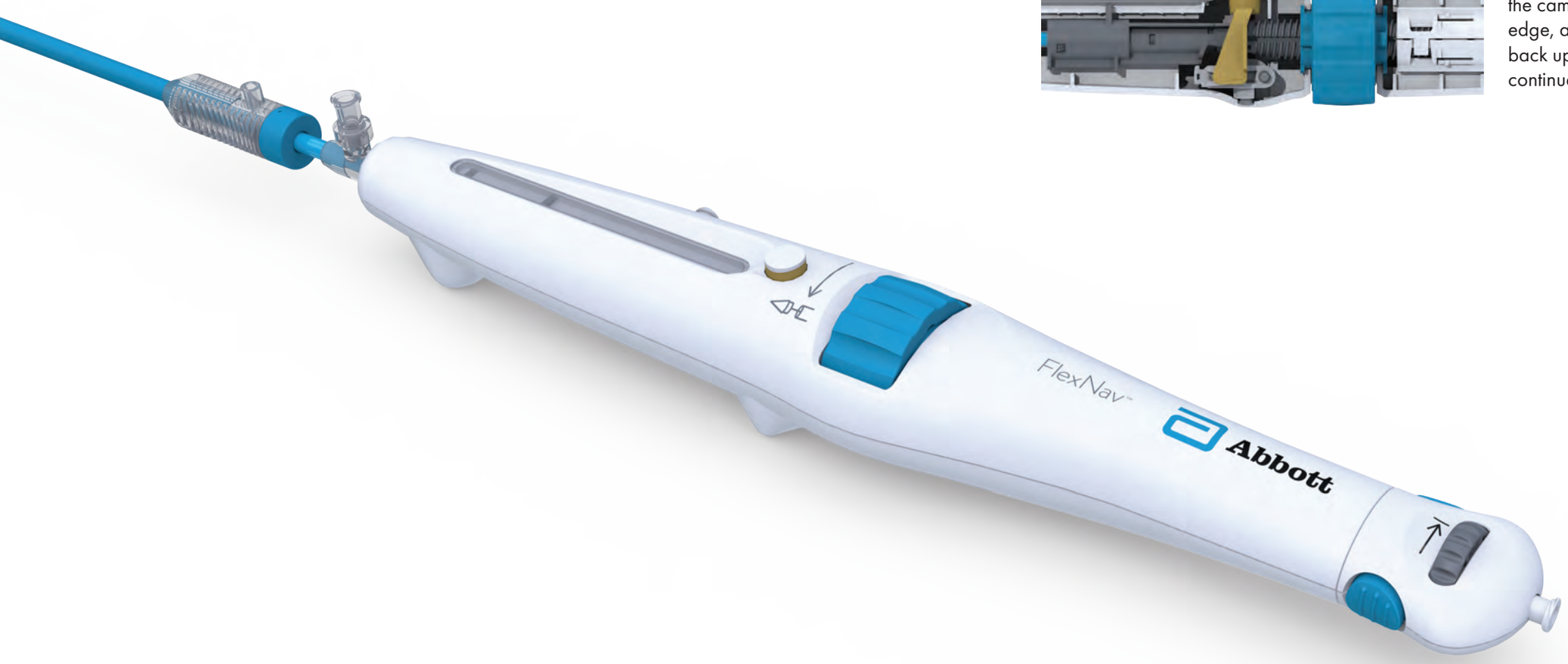
Client Confidential 2010-2012

FlexNav TAVI Deployment Handle

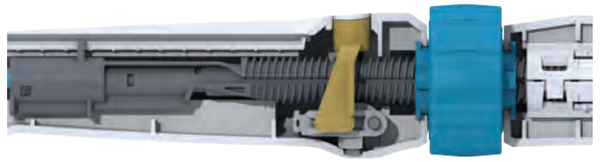
The FlexNav Tavi Deployment Handle is designed to laparoscopically deploy Abbot Laboratories Portico Tavi Valve safely and allowing for valve repositioning during the procedure were paramount in the design of the handle.

In my roll as Lead Design Engineer, I was responsible for the primary Master and Surface Models, for maintaining a clean database in EPDM, and to develop several of the mechanisms in the device, such as the Deployment Lockout Button and the Overdrive Ratchet in the drive wheel.

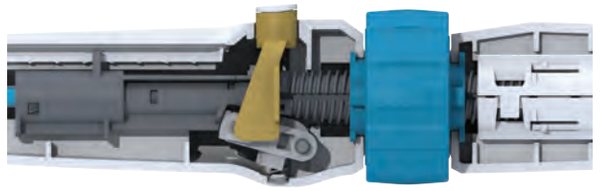
Patents: EP3547964A1 and EP3624739A1



Deployment Lockout Mechanism



As you advance the main drive screw, the deployment lock cam slides along the bottom surface.



When the Lockout position is reached, the deployment lock cam slides into the notch, raising the release button. The spring loaded cam tip compresses closed.
The overdrive ratchet built into the drive wheel will then begin to click and the drive screw stops advancing.

When you press the Deployment Lock Button, the cam tip releases, catching the forward edge, and preventing the button from popping back up. this releases the lock, and allows continued advancement.

FlexNav TAVI Deployment Handle