LTI TruPulse 200X Interface to

esri
THE SCIENCE OF WHERE™

Collector via

EOS Positioning Systems

Arrow Gold Receiver

Quick Reference Guide

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Overview

LTI's TruPulse 200X high-precision mapping laser has BT output to any mobile device. Eos has written a laser interface into their Tool Pro app. Through the standard Offset function in Collector, laser measurements can automatically be recorded.

Compatible LTI products

- TruPulse 200X
- TP200X/TruAngle system

iOS Software used

- Eos Tools Pro (version 1.x)
- Esri Collector (version 18.x)

Basic Steps

- Connect Laser to iOS Device
- Initiate Point Offset in Collector
- Record Laser Data with EOS Tools Pro
  - Range-Range/Intersect
  - Range-Backsight
- Store Offset Location in Collector

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Connect Laser to Device

The TruPulse 200X's Bluetooth module is compatible with Windows, Android and Apple iOS. The first time you connect the laser to your device, it will need to be paired.

1. In the laser Settings menu, turn Bluetooth "On" when using the laser alone; and "Enc" mode when using it with the TruAngle (Figure 1)
2. On the device, turn Bluetooth **On** and discover the TruPulse 200X (Figure 2)
3. Select it from the list, enter the passcode "1234" and tap **Pair** (Figure 3)
4. Confirm the laser is paired to the device and exit the Settings menu (Figure 4)

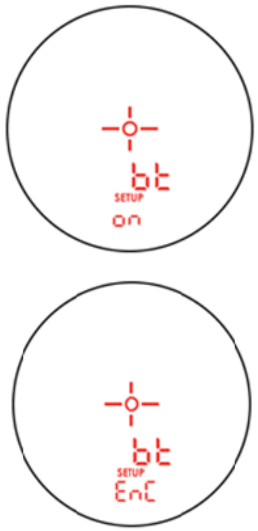


Figure 1

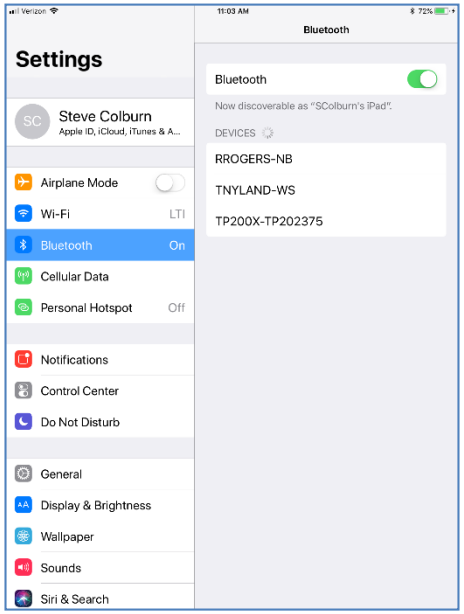
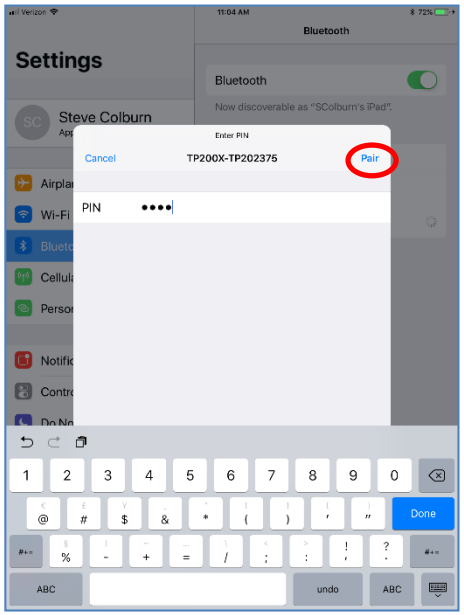


Figure 2



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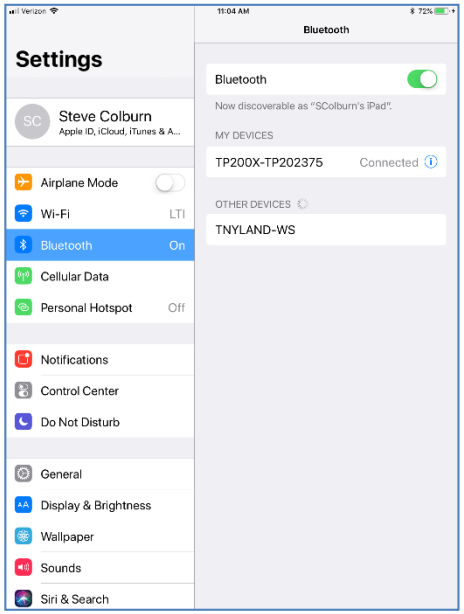

Figure 4

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Initiate Point Offset in Collector

Esri's Collector app can be configured to allow a Laser offset position to be calculated when using Eos's Arrow Gold GNSS product. This guide assumes the user has installed Eos's Tools Pro app and connected their Eos Arrow Gold receiver to the device

5. Start Collector and navigate to the **Settings/Collection Settings/Offset** screen and select the Eos Tools Pro app (Figure 5)
6. Open your Map and choose to **Add** a Point feature (Figure 6)
7. Edit the notes for the point and tap the **Location** icon (Figure 7)
8. Select **Offset from Location** (Figure 8) and this will start the Eos Tools Pro app

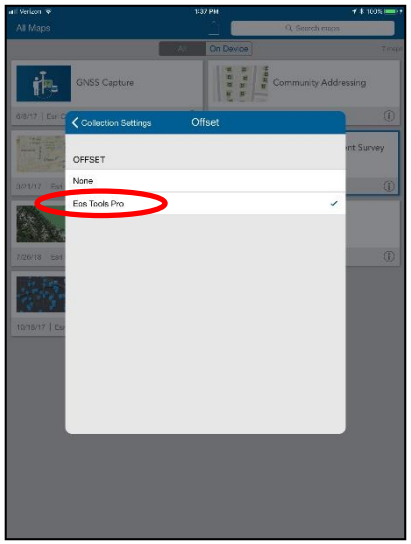
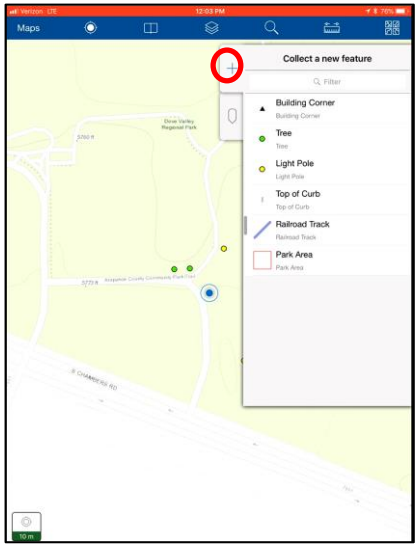


Figure 5



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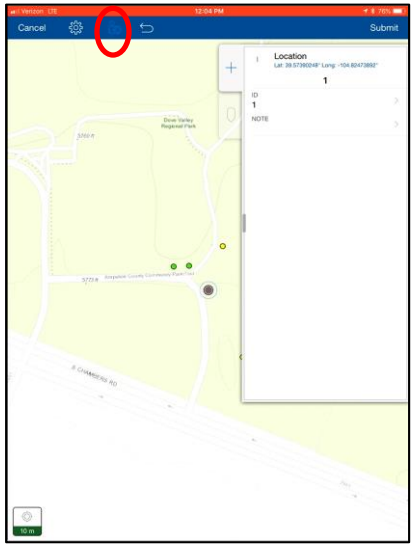

Figure 7

Figure 8

Record Laser Data with Eos Tools Pro

Eos's Tools Pro app will record data from the laser and generate the remote position for the feature. The TruPulse 200X alone can be used in a very accurate, 2-shot method.

9A. Pull down the **Measurement Method** menu; select Range-Range (Figure 9A) and tap **Next**

10A. **Step #1**: Confirm the Number of Positions to Average is correct, tap **Start** (Figure 10A) and when the GPS data is recorded, tap **Next**

11A. **Step #2**: Increase or decrease the **Number of Targets** (Figure 11A) and tap **Next**

12A. **Step #3**: Aim at the target, measure HD with the TruPulse 200X, confirm values for Slope Distance and Inclination come through (Figure 12A) and tap **Next**

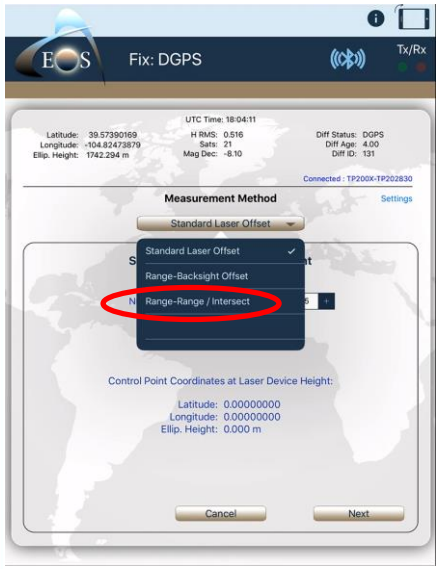

Figure 9A

Figure 10A

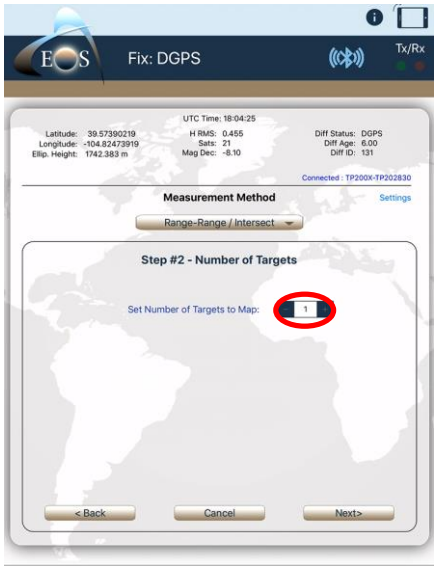

Figure 11A

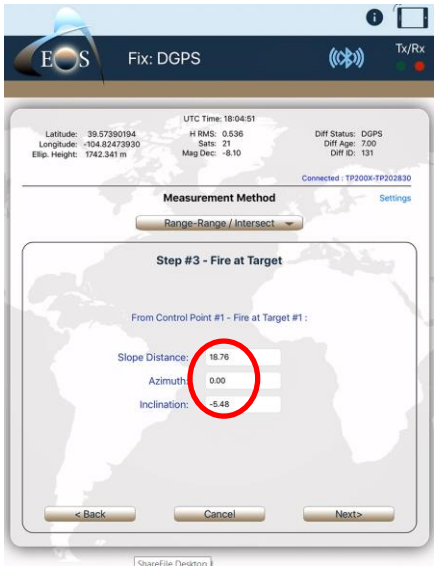

Figure 12A

Record Laser Data with Eos Tools Pro

Range-Range/Intersect method continued…

13A. **Step #4**: Move to the 2nd control point, tap **Start** (Figure 13) and when the GPS data is recorded, tap **Next**

14A. **Step #5**: Aim at the target again and measure the HD, confirm values for Slope Distance and Inclination come through (Figure 14) and tap **Next**

15A. **Step #6**: Choose which solution is correct by tapping the corresponding **Pt1**/**Pt2** icon so it turns green (Figure 15) and tap **Next**

16A. Tap the **Send** button (Figure 16) to transfer the offset location back to Collector

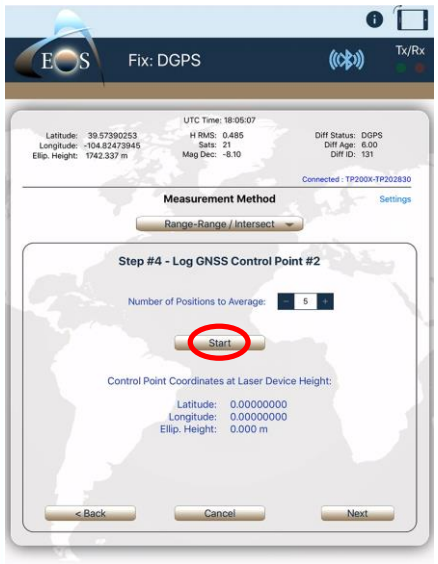

Figure 13A

Figure 14A

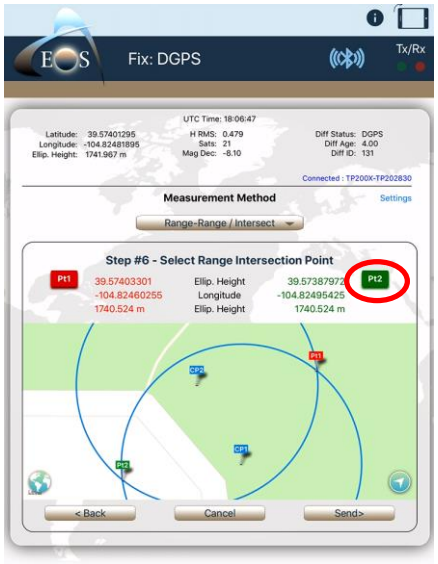

Figure 15A

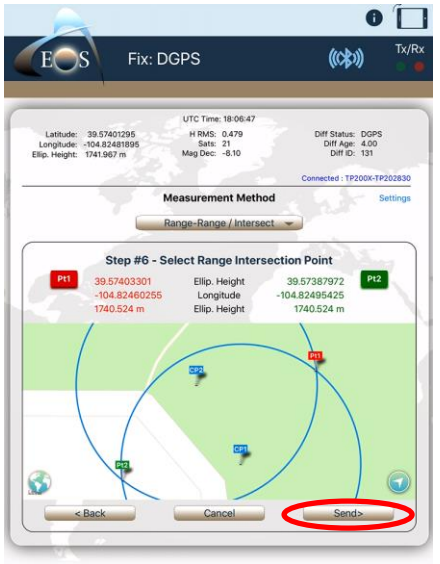

Figure 16A

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Record Laser Data with Eos Tools Pro

To measure offset locations with a single laser shot, the Range-Backsight measurement method can be implemented in Tools Pro. This guide assumes the TruPulse 200X and TruAngle are configured, powered On and connected to the device.

*The TruAngle needs to be zeroed in any direction and ready to fire

9B. From the **Measurement Method** menu, select Range-Backsight (Figure 9B) and tap Next

10B. **Step #1**: Occupy the Backsight point, confirm the Number of Positions to Average is correct, tap **Start** (Figure 10B) and when the GPS data is recorded, tap **Next**

11B. **Step #2**: Occupy the Control Point, confirm the Number of Positions to Average is correct, tap **Start** (Figure 11B) and when the GPS data is recorded, tap **Next**

12B. **Step #3**: Aim and fire the laser system at the Backsight point, confirm values for Slope Distance, Azimuth and Inclination come through (Figure 12B) and tap **Next**

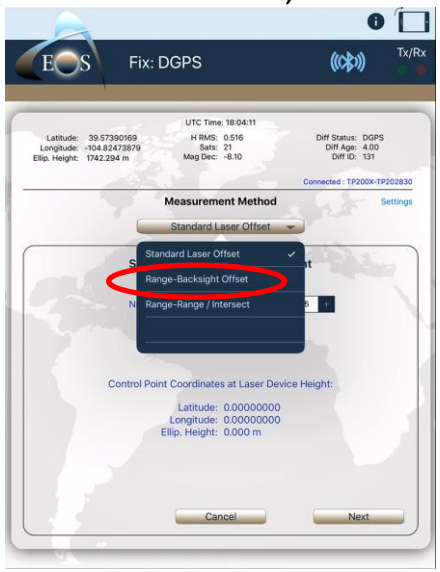

Figure 9B

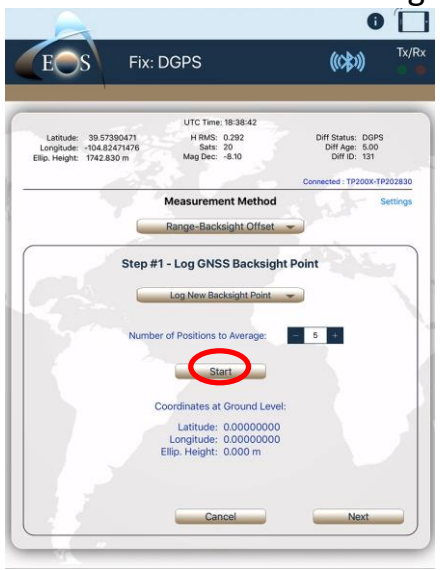

Figure 10B

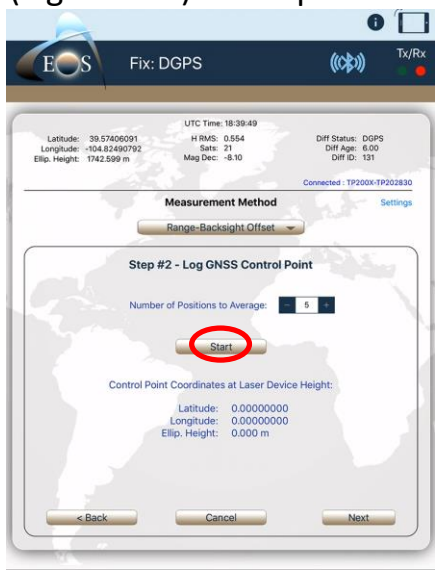

Figure 11B

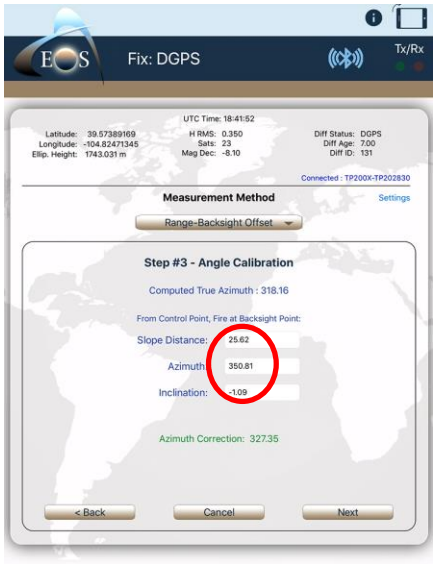

Figure 12B

Record Laser Data with Eos Tools Pro

Range-Backsight method continued…

13B. **Step #4**: Aim and fire the laser system at the Target point, confirm values for Slope Distance, Azimuth and Inclination come through (Figure 13B)

14B. If the data looks good, tap **Send** (Figure 14B) to deliver the offset location to Collector

15B. Multiple features may be mapped from this Control Point by returning to **Step #4** of the Range-Backsight screens, shooting in the next target (Figure 15B) Confirm the data comes through and tap **Send** to deliver the coordinates to Collector

16B. If a new Control Point or Backsight point needs to be measured, simply Back up to Step #1 and record the positions again (Figure 16B)

Figure 13B

Figure 14B

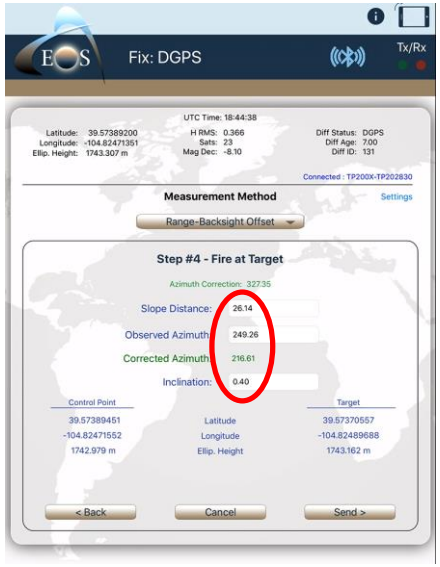

Figure 15B

Figure 16B

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Store Offset Location in Collector

Esri's Collector app will now consume the Laser Offset position calculated within the Eos Tools Pro app.

17. Collector will display the new point in red and if OK, tap **Submit** (Figure 17)
18. The updates will be sent to the app (Figure 18)
19. Details for the new Point will be displayed (Figure 19)
20. Continue in this manner to store additional offset locations

Figure 17

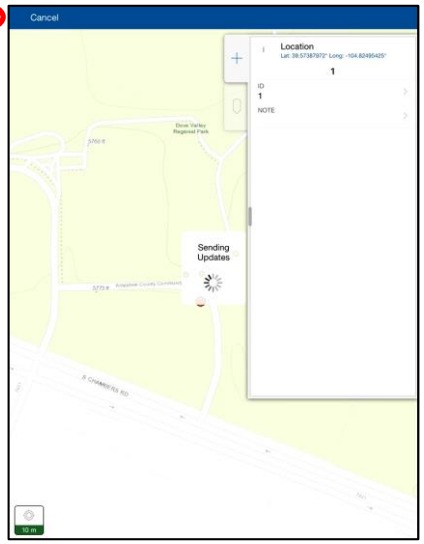


Figure 18

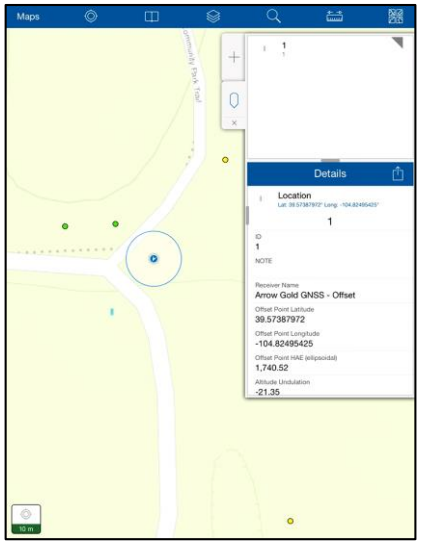
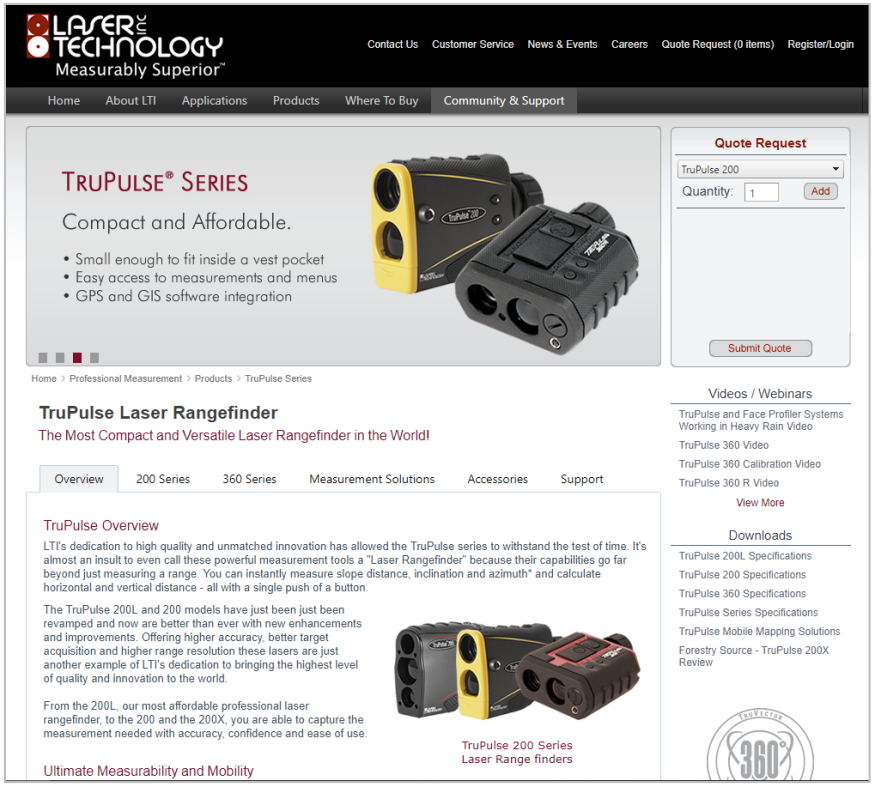


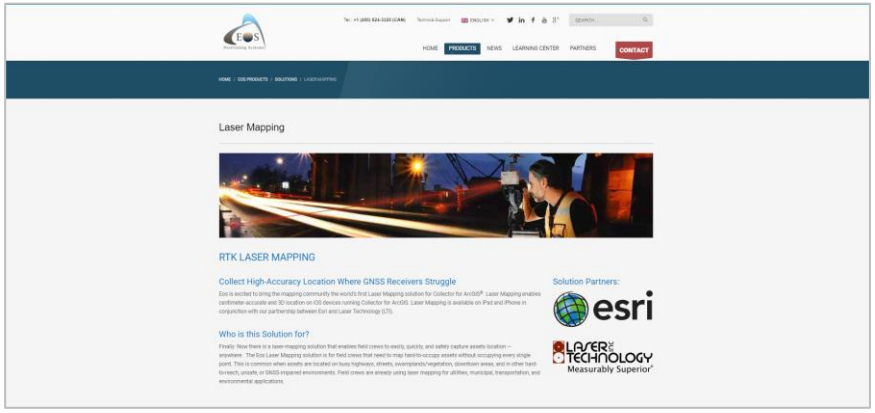
Figure 19

Product Resources

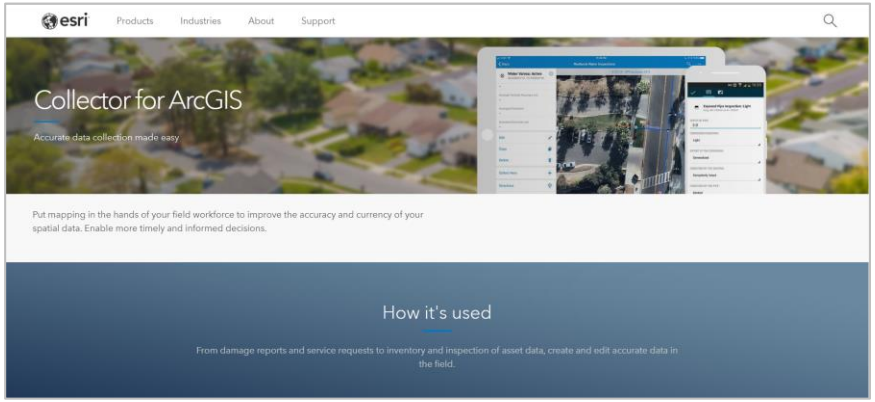
Product Page/User's Guides:
https://www.lasertech.com/TruPulse-Laser-Rangefinder.aspx



https://eos-gnss.com/product/solutions/laser-mapping/



https://www.esri.com/en-us/arcgis/products/collector-for-arcgis



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