

# A Practical Guide to GIS in AutoCAD Civil 3D (Part 1)

Rick Ellis

President, CADapult Software Solutions

rick@cadapult-software.com @theRickEllis



# Who am I...

- Rick Ellis
- Portland, Oregon
- Originally a CAD Manager and Civil Designer
- I've been teaching AutoCAD, Civil 3D, and AutoCAD Map since mid-90's
- Consultant
- Author
- 14<sup>th</sup> year teaching at AU
- Member of the Autodesk University Advisory Council



# Lab Assistants

- Brian Hailey
  - CAD Manager, GEI Consultants
- Sam Lucido
  - Civil Designer and CAD Services Manager, Haley and Aldrich
- R.K. McSwain
  - CAD Manager, LJA Engineering

# Who are you?



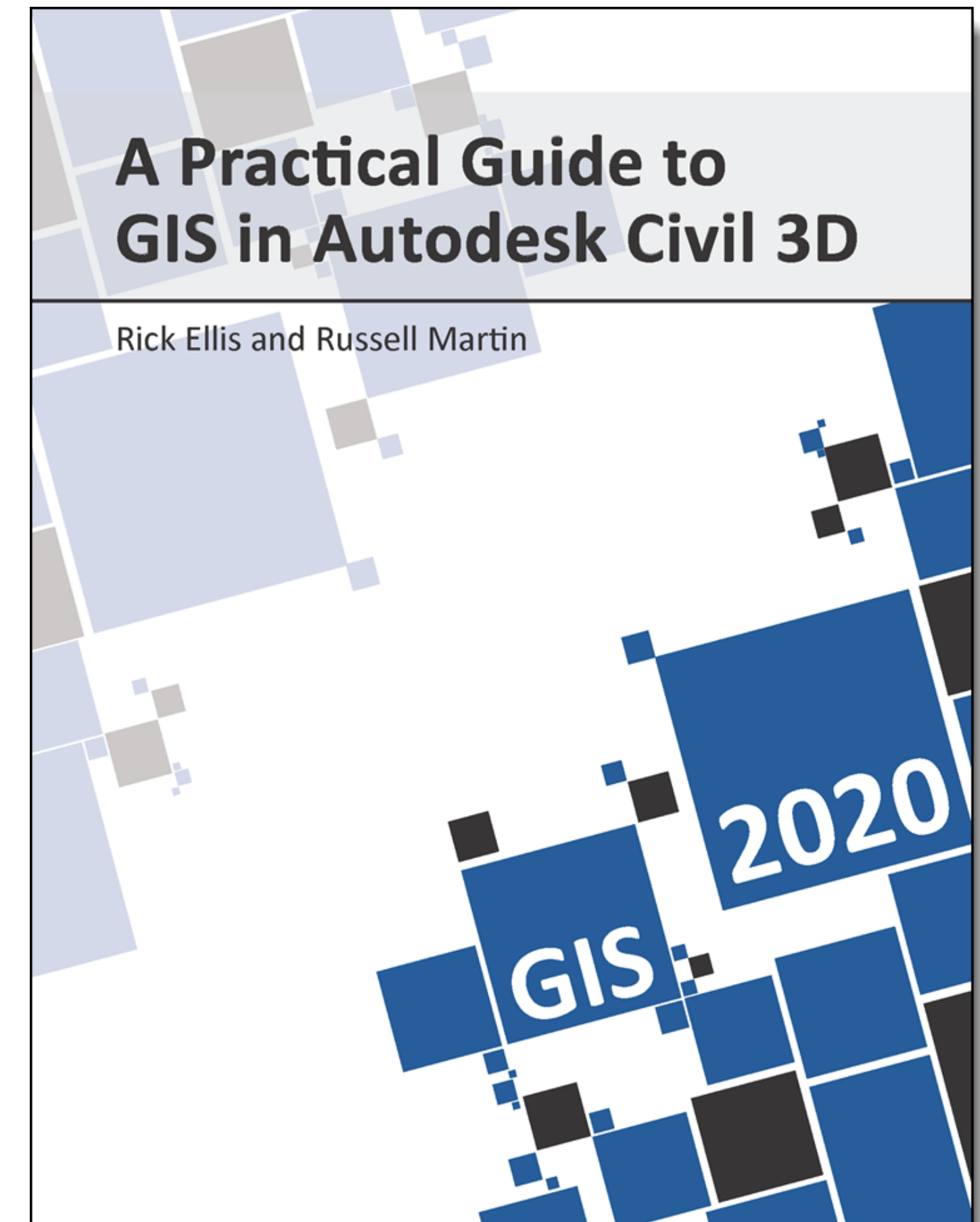
# Class Surveys

- Your class feedback is critical.
- Use the AU mobile app or fill out a class survey online.
- Give feedback after each session.
- AU speakers will get feedback in real-time.
- **Your feedback results in better classes and a better AU experience.**



# A Practical Guide to GIS in AutoCAD Civil 3D 2020

- This class is based on selections from this book.
- I'll give away a copy at the end of the class
- [www.cadapult-software.com/books](http://www.cadapult-software.com/books)



# Course Agenda

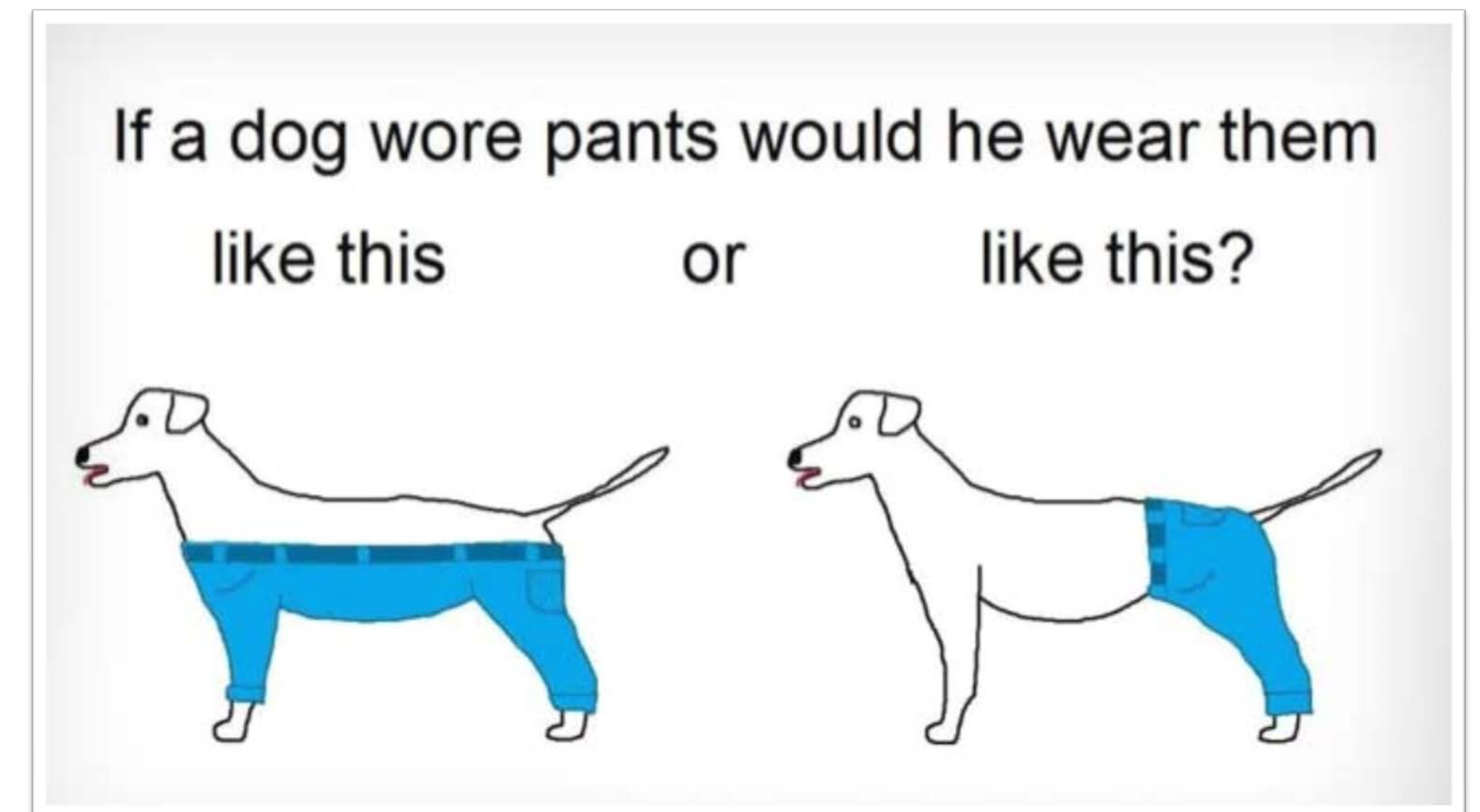
- Introduction to GIS in Civil 3D
- Importing GIS Data from other Formats as AutoCAD Objects
- Label Objects with Annotation Templates
- Importing GIS Data as Civil 3D Objects
- The Autodesk Connector for ArcGIS
- Connecting to GIS Data

# Goals

- Learn some new skills
- Make you think
- Have fun!

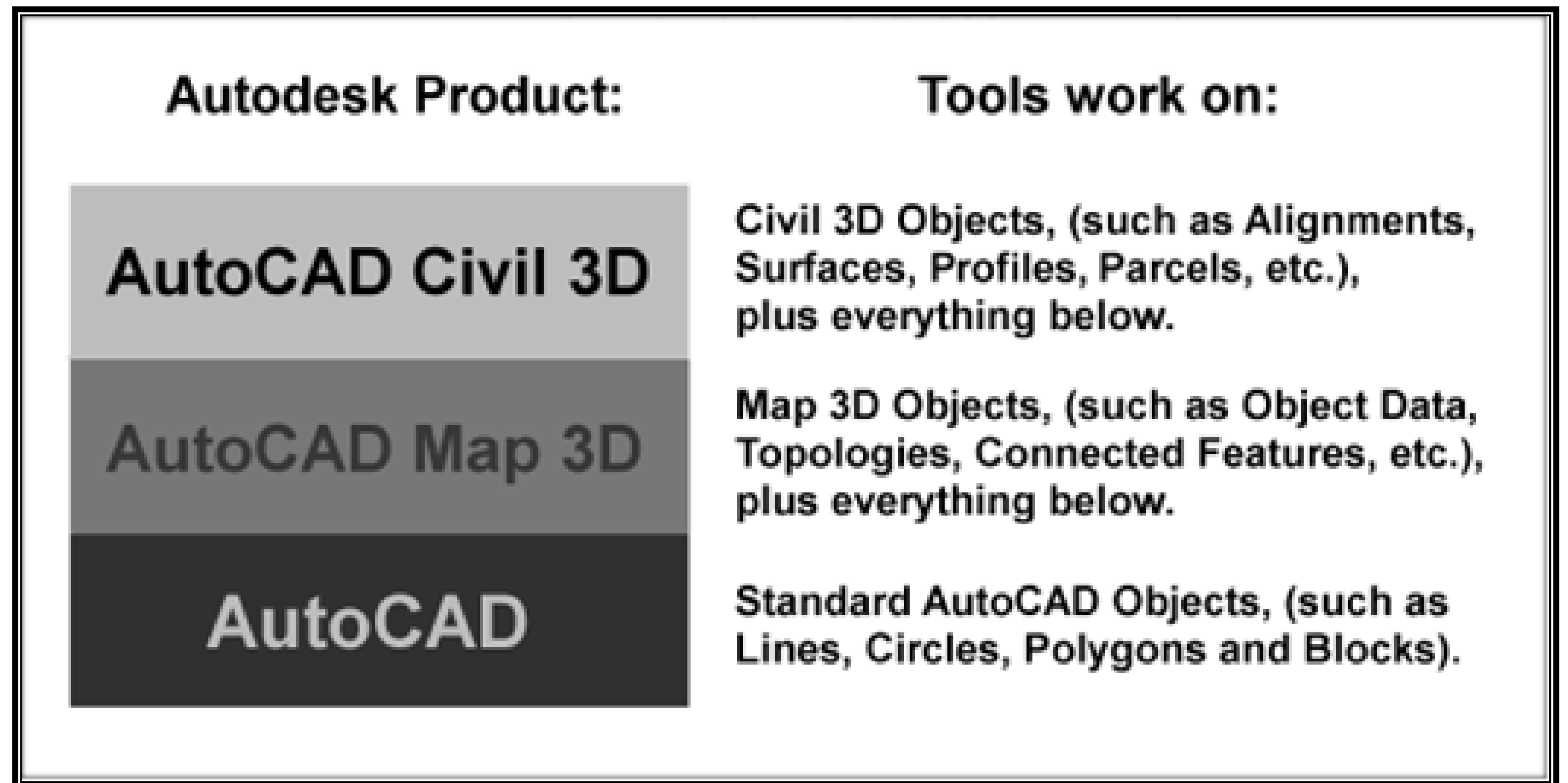
# What About Questions???

- Lab Assistants are here to help you
- Short time for questions at the end of each topic
- After the session
- Via email



# Introduction to GIS in Civil 3D

- It's really 3 programs in 1
  - So what data can I create and who can use it?



# Using GIS Data from other Formats

- Three ways you can bring GIS data into Civil 3D:
  - Importing GIS Data as AutoCAD Objects
  - Importing GIS Data as Civil 3D Objects
  - Connecting to GIS Data
- Important to understand how GIS data is structured
  - Feature Classes

# Importing GIS Data as AutoCAD Objects

AutoCAD Civil 3D can import the following types:

- Autodesk SDF
- ESRI ArcInfo Coverage
- ESRI ArcInfo Export (E00)
- ESRI Shape file
- GML
- MapInfo MIF/MID
- MapInfo TAB
- Intergraph/MicroStation Design (dgn)
- OS (GB) MasterMap (GML 2)
- Spatial Data Transfer Standard (SDTS)
- Vector Product Format Coverage (VPF)

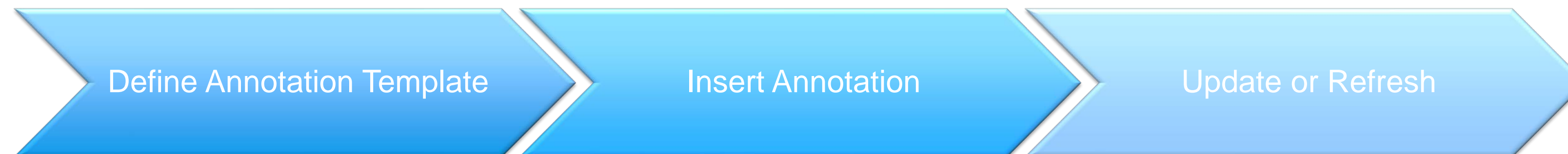
# Exercise



# Annotation Templates

Several types of data can be used to drive an Annotation Template. These include:

- Object Data
- Linked data sources
- Object properties



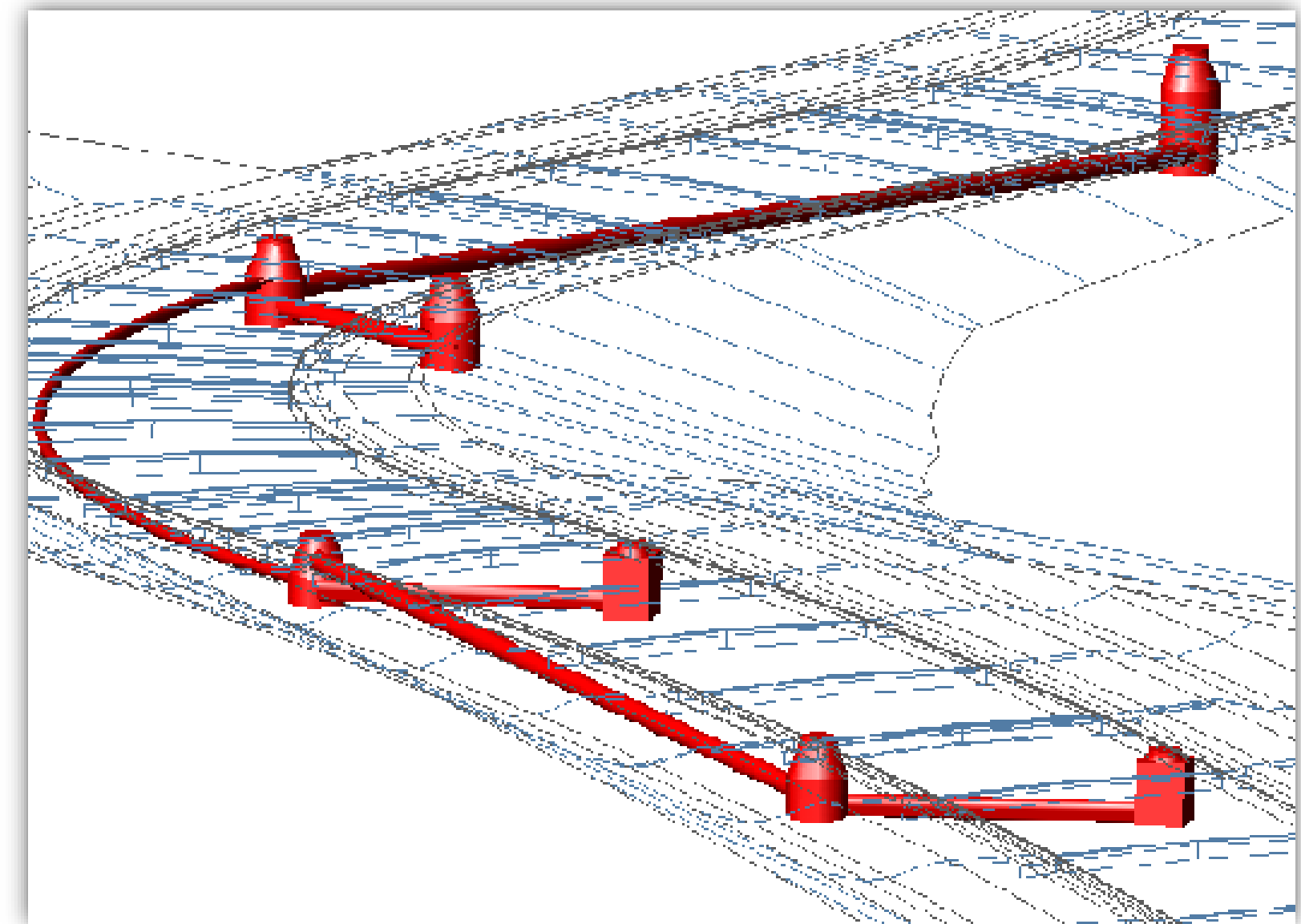
# Exercise



# Importing GIS Data as Civil 3D Objects

There are two types of Civil 3D objects that can be created directly from GIS data.

- Surfaces
- Pipe Networks



# Exercise



# The Autodesk Connector for ArcGIS

- Allows you to connect to data from ArcGIS Online
- Data can be added as Civil 3D Objects
  - alignments
  - feature lines
  - gravity pipes
  - parcels
  - points
  - structures

# Exercise



# Connecting to GIS Data

- Direct Connection
- Not an Import
- Creates Map Features not AutoCAD Objects
- Stylized in the Display Manager

# Exercise

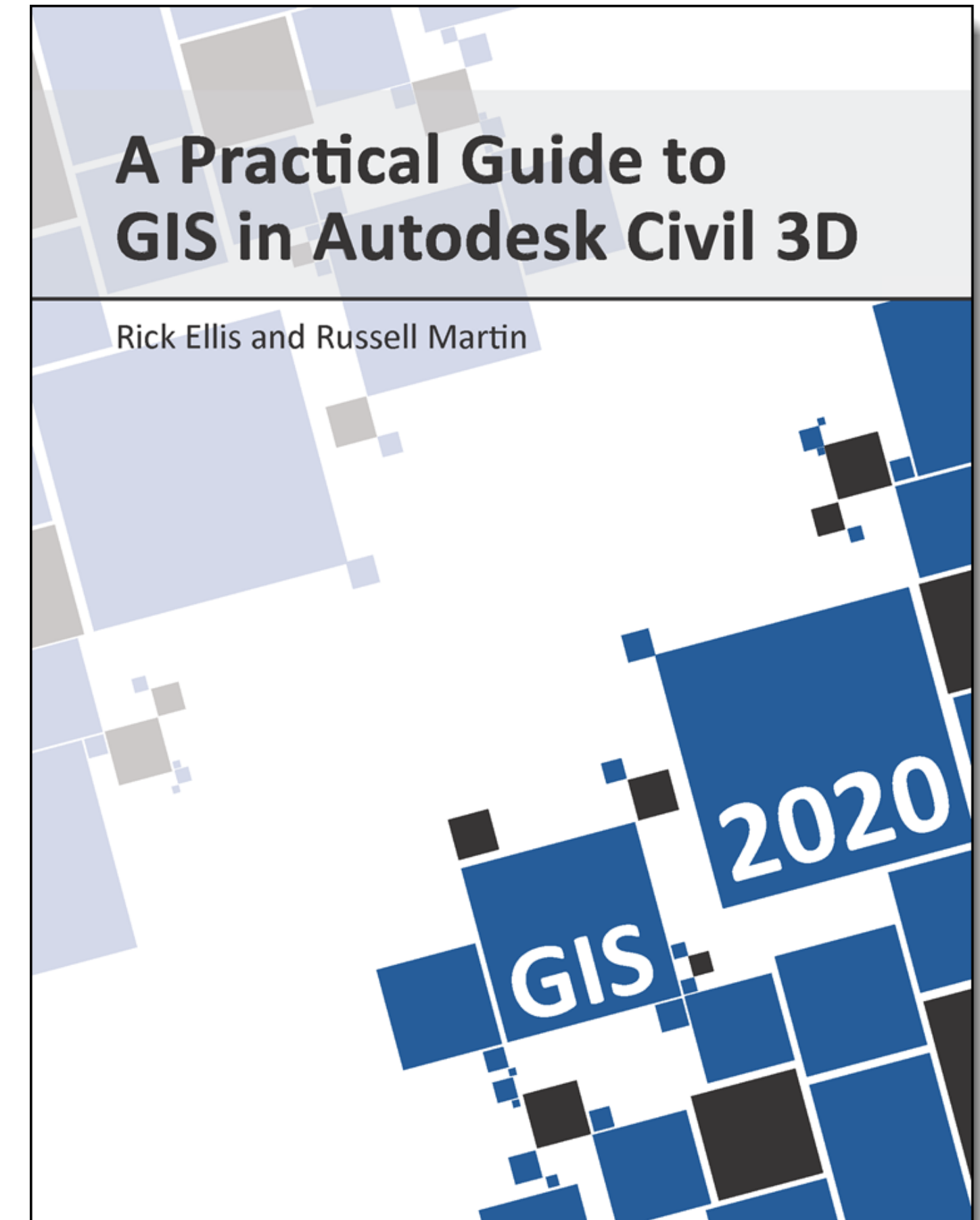


# Other useful GIS tools in Civil 3D

- Drawing Cleanup tools
  - Automate the process of cleaning many common geometry errors
- Thematic Mapping
- Dynamic North Arrows, Scale Bars and Legends
- Map Books

# A Practical Guide to GIS in AutoCAD Civil 3D 2020

- This class is based on selections from this book.
- We have only scratched the surface of this topic.
- Get your copy at:
  - [www.cadapult-software.com/books](http://www.cadapult-software.com/books)



# Goals

- Learn some new skills
- Make you think
- Have fun!

# Still have Questions???

- Via email
  - [rick@cadapult-software.com](mailto:rick@cadapult-software.com)



Thank you for your time and attention!

Don't forget to fill out the class survey!

Rick Ellis

[rick@cadapult-software.com](mailto:rick@cadapult-software.com)





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