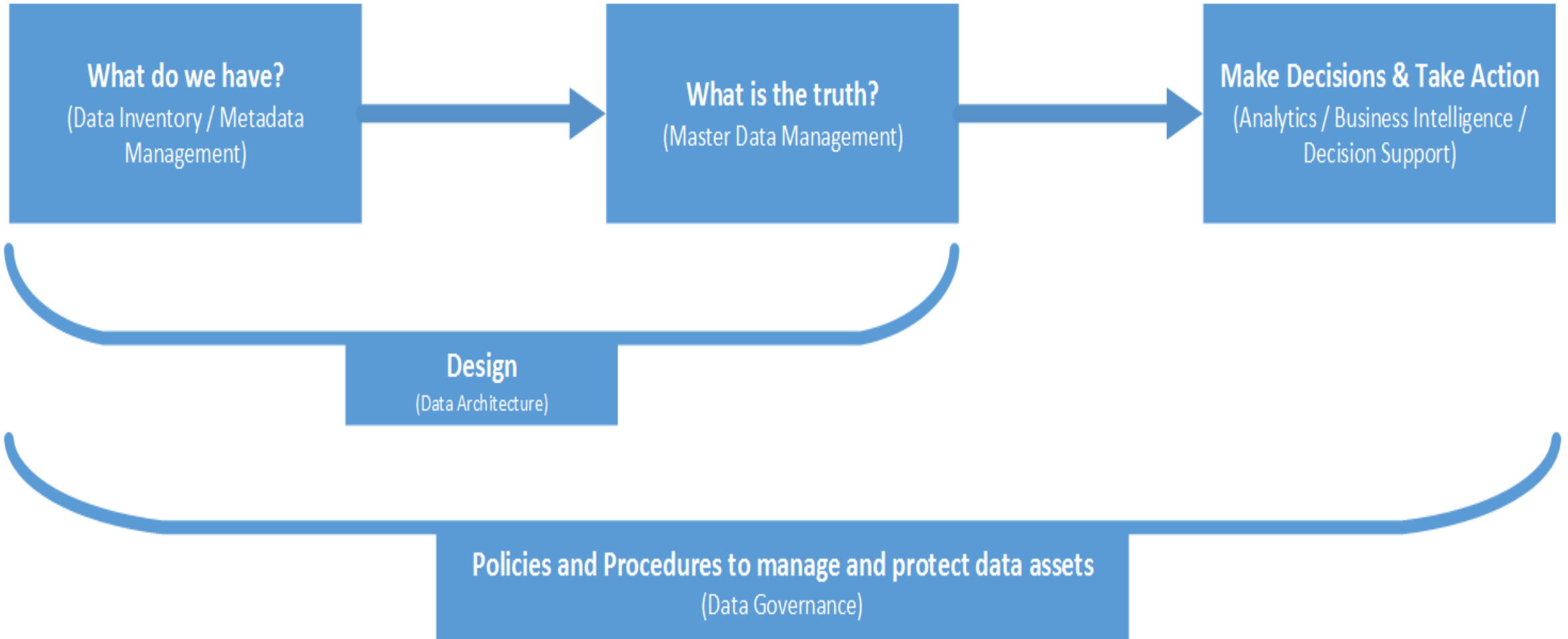# Enterprise Data Management (EDM)

What this means for GIS

What is EDM?

- Data (spatial or otherwise) is a critical business ***asset***

- Business-led program to structure all data and analytics initiatives to drive better business outcomes

- Most organizations maintain rather than manage their information
  - We say "manage," we really mean "to manage for business advantage," as opposed to just maintaining the data and its physical or virtual storage needs.

- A lot of EDM concepts and ideas have been part of GIS for a long time
  - Metadata, Mastering Data, Analytics, Etc.

NCDOT Data: Mission Critical Assets
(Enterprise Data Management)

What do we have?
(Data Inventory / Metadata Management)

→

What is the truth?
(Master Data Management)

→

Make Decisions & Take Action
(Analytics / Business Intelligence / Decision Support)

Design
(Data Architecture)

Policies and Procedures to manage and protect data assets
(Data Governance)

Why EDM

- Data volume, variety and velocity are ever-increasing…

"The amount of data engineers and scientists create more than doubles every two years. Growth of this magnitude presents fundamental challenges to current data management practices. Ideally, having more data should lead to faster, more accurate results. However, unorganized saved data and different file formats make it difficult to quickly identify and integrate data contents. In addition, repetitive, manual processing decreases efficiency and introduces errors. Especially as data growth increases, we cannot continue to manage our data the same way and expect better results. The price of poor decisions based on inaccurate information can be greater than expense of development time, software costs, or training."

National Instruments 2016

ARE YOU PREPARED?

HIDDEN COST OF DATA MISMANAGEMENT

Many engineers and scientists acknowledge that they have working yet inefficient data analysis and reporting solutions, but they are concerned about the cost and time required to improve their applications. And applications that may work now may not be able to keep up with the data demands of the future. Successful data management is key in distinguishing top performing companies from their competitors.

INTERNATIONAL DATA CORPORATION (IDC)

TURNER, VERNON, JOHN F GANTZ, DAVID REINSEL, AND STEPHEN MINTON. "THE DIGITAL UNIVERSE OF OPPORTUNITIES: RICH DATA AND THE INCREASING VALUE OF THE INTERNET OF THINGS."

COMPANIES THAT USE **DATA-DRIVEN DECISION MAKING** ARE ON AVERAGE

5% ↑ **MORE PRODUCTIVE**

6% ↑ **MORE PROFITABLE**

DATA AMOUNTS WILL **INCREASE** BY A FACTOR OF **TEN** BY 2020

EXPONENTIALLY INCREASING TIME & COST

IT WILL TAKE 10X MORE ENGINEERS TO PROCESS TOMORROW'S DATA

x

BASED ON AN AVERAGE TEST ENGINEER SALARY OF $70K

	2	Hours Per Day
x	$33.97	Hourly Salary
	$67.94	Data Costs Per Day
x	260	Business Days
	$17,666.40	Annual Data Costs
x	10	Growth Factor by 2020
	$176,644	**Data Cost by 2020**
		MAINTAINING THE STATUS QUO
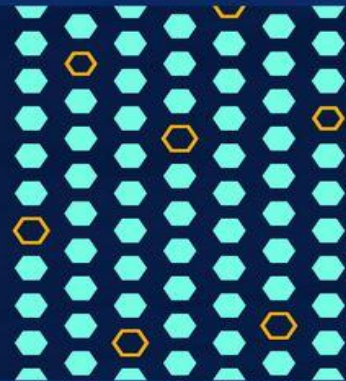
ONLY **5**% OF DATA IS ANALYZED BECAUSE IT IS PROPERLY **DOCUMENTED**

THERE ARE OVER FIFTY **BILLION** SENSORS WORLDWIDE

DATA WITH **DIFFERENT FORMATS** CAN MAKE DATA **INTEGRATION CHALLENGING.**

THE **DIGITAL UNIVERSE IS EXPECTED TO GROW** **40**% PER YEAR FOR THE NEXT DECADE

2014 2015 2016 2017 2018 2019 2020 2021

NATIONAL INSTRUMENTS
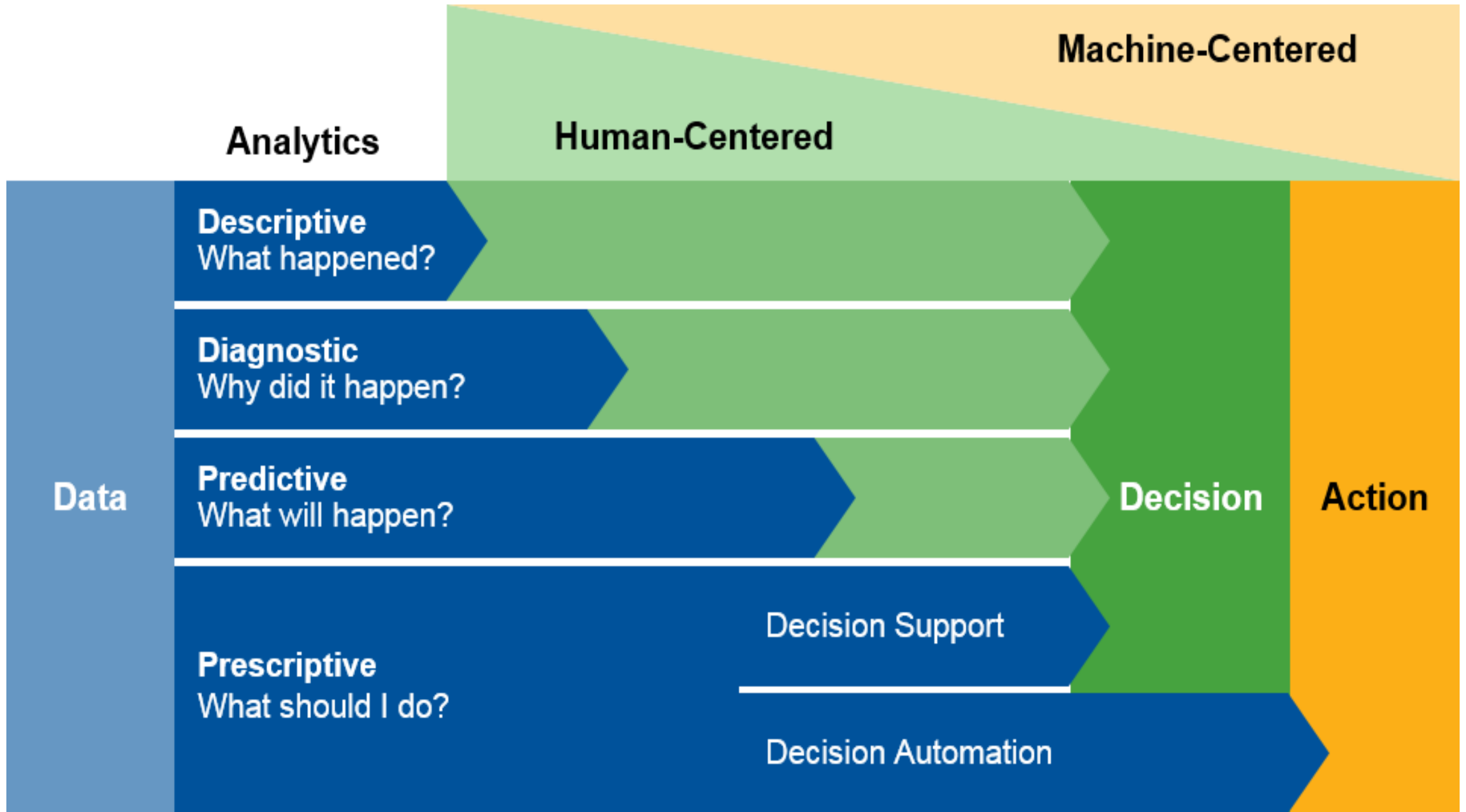
Source: Gartner (October 2016)

EDM and GIS

- Coming to an Agency near you!
  - State-wide Initiative
- It's really a question of when, not if...
- CGIA and Metadata Management
- The NC GIS community is a technology leader

MERRY CHRISTMAS

&

Happy Holidays!