Big Data

Just like it sounds, Big Data is a BIG topic. There is so much to learn, it is hard to know where to start. This resource handout will give you somewhere to start on your own big data learning experience – or at least help point you in the right direction!

There are multiple devices, equipment and machines that are collecting BIG bytes of data – pardon the pun, but we are talking about gigabytes, terabytes, maybe even petabytes, exabytes or zettabytes of data! Businesses that are able to utilize that data (of any amount) can help improve their bottom lines. Capturing, organizing and analyzing data may require technical expertise, but as this month's Manufacturing 4.0 Webinar will demonstrate, your brain doesn't have to explode just thinking about it - there are ways to start managing and using data without diving into expensive proprietary software, or hiring an expert.

Webinars/Videos to Watch

Iowa Manufacturing 4.0 Consortium webinar recording:

- Industry 4.0 Big Data Webinar

Technically Iowa Podcast (Technology Association of Iowa (TAI):

- Big Data & Data Analytics with Kreg Tool

Featured CIRAS Industry 4.0 Webinars on Demand:

- Analytics for Operations – What you need to begin
- Practical Analytic Techniques – Industry 4.0

Useful information from Iowa:

- Check out the Quad Cities Chamber Data Analytics Playbook
- Watch more informative webinars on The Technology Association of Iowa's Technically Iowa Podcast.

Public sector service providers for your business:

- CIRAS offers assessments and assistance with cost benefit analysis, process improvements and integration planning, among other services.

Articles and Websites:

- ✓ Iowa Technology Summit, hosted by The Technology Association of Iowa
- ✓ insideBIGDATA - white papers and articles for several industry segments, including manufacturing.
- ✓ Deloitte Insights – articles, case studies and research about data and analytics and using information in decision making.
- ✓ The Impact of Big Data in Business – a good blog post from Plug and Play Tech Center about using Big Data
- ✓ 8 Big Data Solutions for Small Business – an article from Business New Daily that offers an overview of eight platforms that can be used to capture, organize and analyze data.

Iowa Data Analytics Vendors & Others:

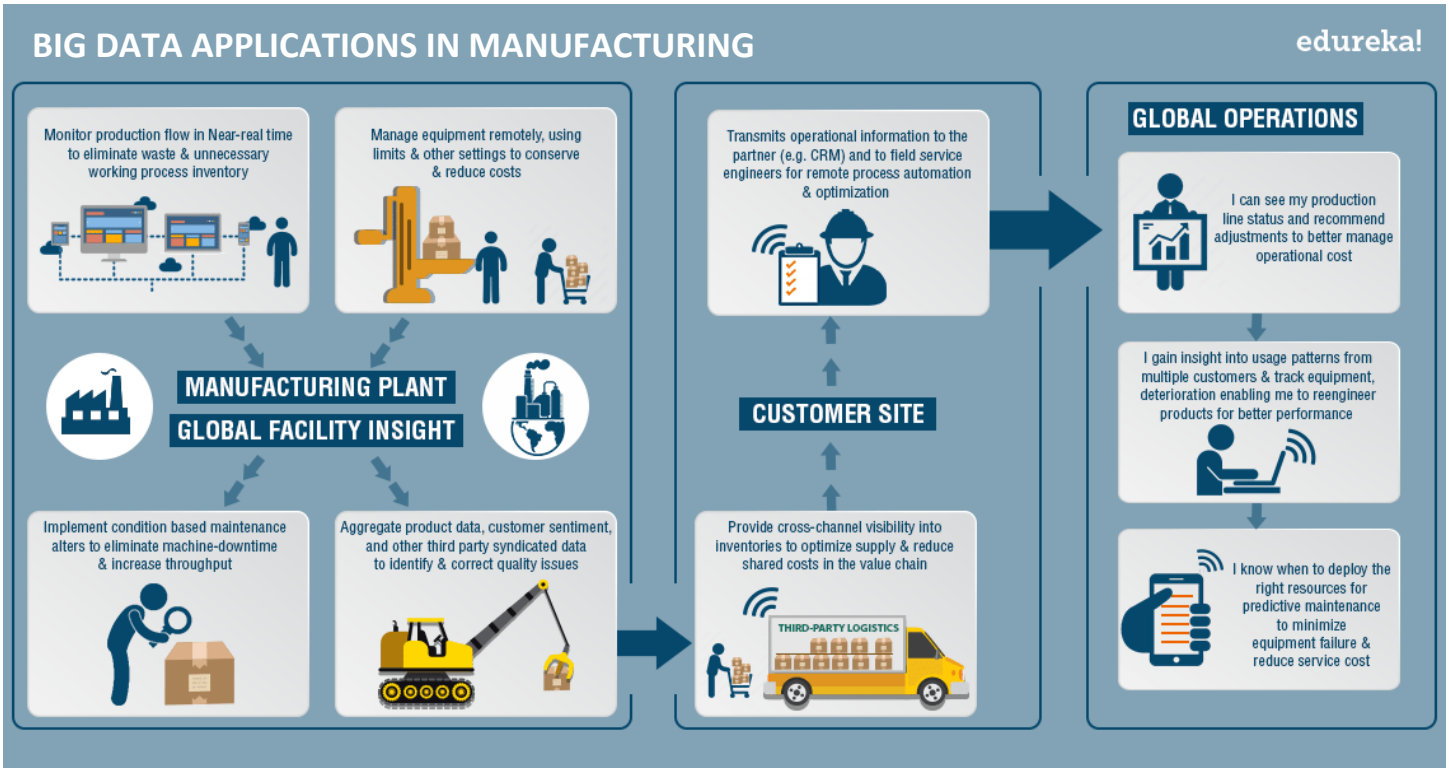
- Lean TECHniques Inc. in Johnston
- Spindustry, in Des Moines
- Zirous, in West Des Moines
- Strategy Titan
- Affirma
- Infor

***Disclaimer: This is not meant to be a comprehensive list of service providers*

How the Big Data Analysis Process Unfolds…

1. Business case evaluation – What is the reason and goal behind the analysis – what do you want to know?
2. Identification of data – What is collecting data, what information does the data include, and what kind of data is it?
3. Data filtering - All of the data from the previous steps is cleaned and filtered to remove any corrupt data.
4. Data extraction - Data that is not compatible with chosen analysis tool is pulled out and then converted into a compatible format.
5. Data aggregation - Data with the same fields across different datasets are integrated into one dataset.
6. Data analysis - Data is evaluated using analytical and statistical tools to discover useful information.
7. Visualization of data - With tools like Tableau, Power BI, and QlikView, Big Data analysts can produce graphic visualizations (charts, graphs, diagrams, maps, etc.) of the analysis.
8. Final analysis result - This is the last step of the Big Data analytics process, where the final results of the analysis are made available to business stakeholders for decision making and action.

Sourced from Simplilearn, *What is Big Data Analytics and Why is it Important?*



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