

BREI AT A GLANCE

Cloud Computing



Cloud Computing! It sounds like a big topic, and it is – but the term “cloud” simply means the Internet. Using the internet to connect, share, secure and store is considered cloud computing. As more and more data is collected, more machines and people are sharing information, and multiple devices are connecting; local servers or hard drives become too difficult and risky for most businesses to maintain. Utilizing cloud services provide a scalable and affordable way for businesses to enable multiple Industry 4.0 technologies. You can help your businesses learn how cloud computing may help improve their efficiency and resiliency by sharing some of the following information with them.

Webinars, Videos or Podcasts to Share



- Technically Iowa Podcast, [Cloud Computing with Wells Enterprises](#)
- [Cloud Computing in 6 Minutes](#)
- [Industrial Cloud Benefits](#), Automation World
- **CIRAS Webinars on Demand:**
 - [Business Process Automation Using SharePoint-Office 365](#)
- **CIRAS Industry Technology Video**
 - [Cloud Computing](#)

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Cloud Computing – Embracing Digital Transformation to Enable Industry 4.0.

As manufacturers implement Industry 4.0 technologies, utilizing cloud computing is essential for maximizing efficiencies and data analytics. Cloud computing consists of a frontend, where the user or equipment is located, and a backend, which is the services in the cloud (storage, servers, and programs). Both frontend and backend are connected to each other, via the internet.

How does cloud computing improve business?

Lower costs. Working in the cloud substantially lowers the cost of in-house hardware and software by removing the need for costly IT infrastructure and maintenance. Servers and licenses through cloud services are sold as a subscription model - based on use.

Scalability. Cloud services can be easily adjusted to accommodate fluctuating bandwidth and storage requirements. As needs change, the system scales capacity automatically.

Data. All data is processed and stored in the cloud. Processing data in the cloud can help forecast peaks in demand, prevent delays in production, redistribute workloads or avoid problems with inventory.

Automatic updates. Security breaches are often aimed at equipment that may not be properly updated and could be vulnerable to hackers or scammers. When cloud computing, company servers are located outside of the facilities and the cloud system is also likely running with the latest software version.

Security and Disaster Recovery. Data stored in the cloud is encrypted and there are automatic back-up systems that can be accessed regardless of what happens with the machines. Cloud infrastructure and technology provides highly secure and “available from anywhere” data for easy restoration and continuous workflow.

Mobility. Employees are no longer tied down to a physical space in order to work with the information.

Connectivity. Employees, suppliers and/or clients can share data and information for seamless communication and action. You can work with it at any time and from any place, which streamlines production improves efficiency.

For more information, check out this article: [A Manufacturer’s Guide to Cloud Computing](#)



BREI Discussion Starters for Your Visits with Local Businesses



1. Do you use any cloud-based platforms? If so, how are you using them?
2. If not... does your demand for IT vary throughout the year?
3. ... Are the costs of your IT impacting your ability to grow?
4. ... How important are security and reliability to your business? Is your security solution currently meeting your needs?
5. ... Do you have a need for remote access for employees and/or information sharing up and down your supply chain?
6. How could/does cloud computing provide you with advantages over your competitors?

Cloud Computing Referrals to Share

Public sector service providers for your businesses:

- [CIRAS](#) offers assessments and assistance with cost benefit analysis, process improvements and integration planning, among other services. In cloud computing, CIRAS offers basic education and provider facilitation on:
 - Review and assessment of current process need
 - Data Storage, virtualization and disaster recovery systems
 - Business process automation through Cloud platforms
 - Facilitated connections to system integrators and assist with implementation.

Cloud Solutions Vendors:

- [EnCompass Iowa](#), Cedar Rapids
- [C.U.R.E Solutions](#), Burlington, Fairfield, Fort Madison
- [Siemens](#)
- [NTT Data](#)
- [Simio](#)

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

Additional Resources and Reading for You or Your Businesses



- ✓ [Why Cloud Computing Is Essential To Modern Manufacturing](#), an article from *Forbes*.
- ✓ [The State of Cloud Adoption in Manufacturing](#), an interesting blogpost/interview about cloud computing in manufacturing from *Accenture*.
- ✓ [Big Data, Cloud Computing Redefining Manufacturing Paradigms, Pushing Industry 4.0 Farther](#), a short article on *Automation Alley*.
- ✓ [The Different Types of Cloud Computing Explained](#), a guide from *Jellyfish Training*. Briefly explains the three types of cloud computing (public cloud, private cloud and hybrid cloud) and the types of cloud services (IaaS, PaaS, SaaS and serverless)
- ✓ [Top 10 Cloud Service Providers in 2022](#), blogpost on *Tech2Sports*. A quick look to get you thinking about what you might already be using in your daily life!



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