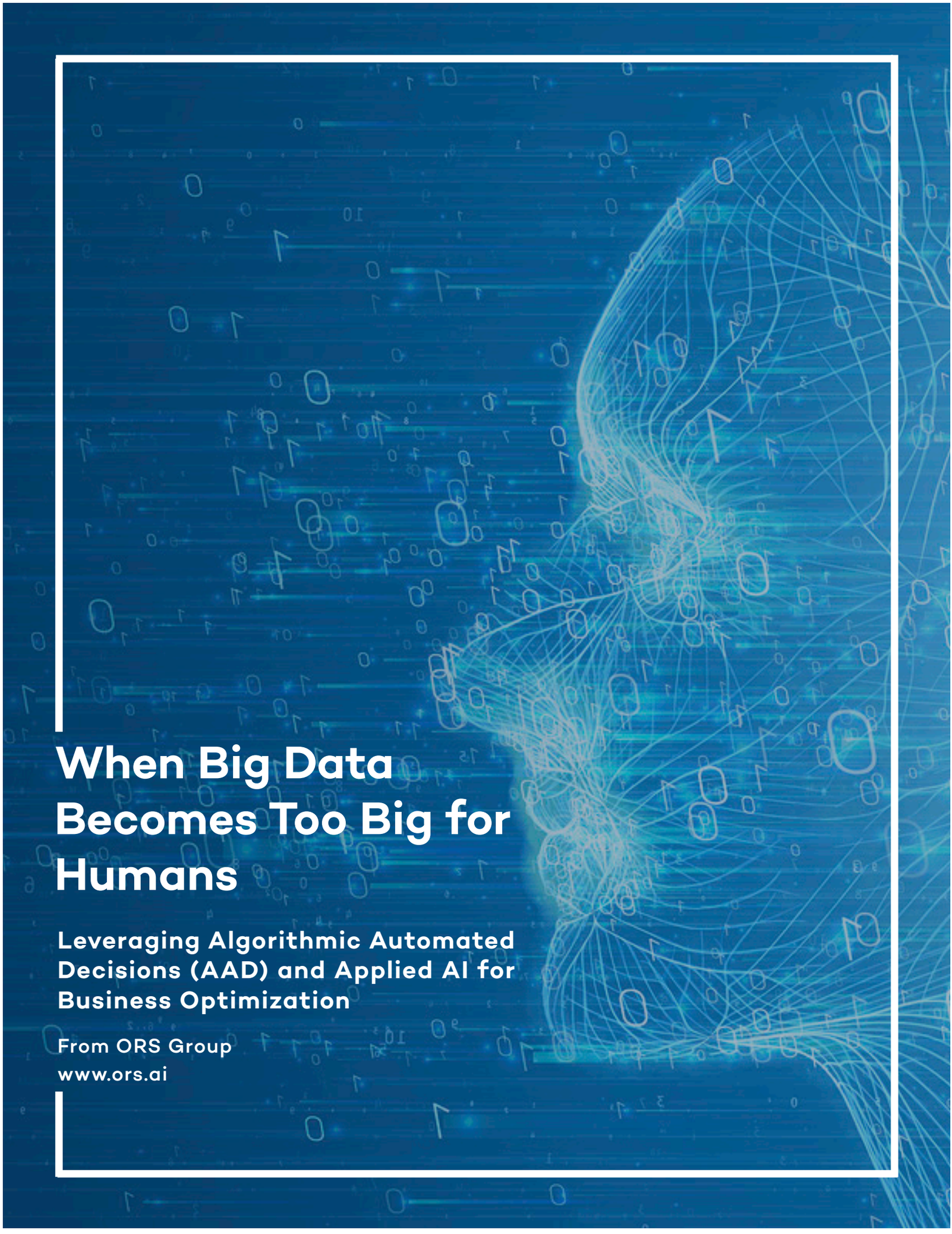


When Big Data Becomes Too Big for Humans

Leveraging Algorithmic Automated Decisions (AAD) and Applied AI for Business Optimization

From ORS Group
www.ors.ai

Big Data can be too big to handle

The jury is out: enterprises cannot afford to ignore Big Data if they want to survive in today's marketplace. According to a recent Accenture study, 79% of executives agree that companies that do not embrace Big Data will lose their competitive position —and even face extinction.

The problem with Big Data, however, is that it can be too big, as illustrated by its four Vs: Volume, Velocity, Variety, and Veracity.

Source: www.ibmbigdatahub.com

Volume

The scale and amount of big data

- Most US companies store at least 100 terabytes of data
- Approximately 2.5 quintillion bytes of data are created every day
- 40 zettabytes of data will be created by 2020 — a 300% increase from 2005

Veracity

The uncertainty of big data

- 27% of respondents in one survey admit they are uncertain how much of their data is accurate

Velocity

The rate at which big data flows in real time

- The NYSE processes 1TB of trading information during each trading session
- Modern cars can have up to 100 sensors monitoring everything from tire pressure to fuel levels and battery performance.

Variety

The multiple sources and types of big data

- 30 billion different pieces of content are shared on Facebook every month
- 4 billion hours of video are streamed on YouTube every month
- 400 million tweets are sent out each day by 200 million Twitter users

The sheer scale of Big Data is overwhelming, with multiple sources projecting an exponential rate of growth from 2020 onwards. The size of the data universe is doubling every two years, with human- and machine-generated data growing 10x faster than traditional business data, and machine data growing 50x faster.

> The rate at which we're generating data is rapidly outpacing our ability to analyze it
>
> **Professor Patrick Wolfe**
> **Executive Director of the University College London's Big Data Institute**

Another challenge worth mentioning is that there is a shortage of professionals with the skills, knowledge and training to perform data analytics. There is an acute shortage of about 1.5 million data analysts who can make informed decisions based on data. Even without this talent gap, however, Big Data's sheer volume, velocity, and variety can overwhelm enterprises who must keep up with increasing pressure to make data-driven decisions and executions.

Despite the inherent difficulties, however, the potential for Big Data to empower businesses to obtain deeper insights into their customers, competitors, and market conditions — so they can develop innovative new products, increase margins, reduce risk, adapt to changing conditions, and more — is simply too big to ignore.

Algorithms to the rescue

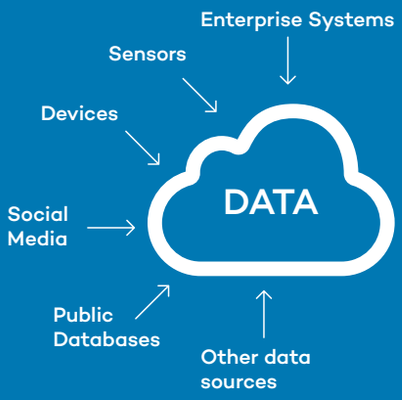
An algorithm is simply a set of instructions designed to solve a well-defined problem. Artificial Intelligence (AI), automation, machine learning, and the Internet of Things (IoT) are revolutionizing businesses worldwide. All of these technologies rely on smart algorithms that enable the gathering, cleansing, processing, and analysis of Big Data far beyond the limits of humans.

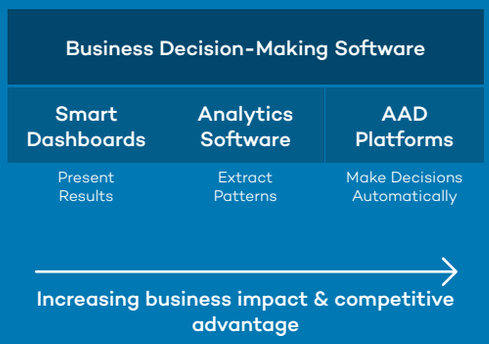
Software applications for supporting business decision-making can be grouped into 3 major segments: Smart Dashboards, Analytics Software, and AAD Platforms.

Smart Dashboards
Present results of analyses based on collected data

Analytics Software
Extract patterns from collected data to provide greater insight into business processes.

AAD Platforms
Make decisions automatically to maximize performance based on optimization using sophisticated algorithms.





While Smart Dashboards and Analytics Software still require the presence of human experts sitting in front of the dashboard or interpreting analytics reports, AAD solutions are the next frontier for optimizing business results.

AAD solutions and Applied AI based on ORS RAMS platform

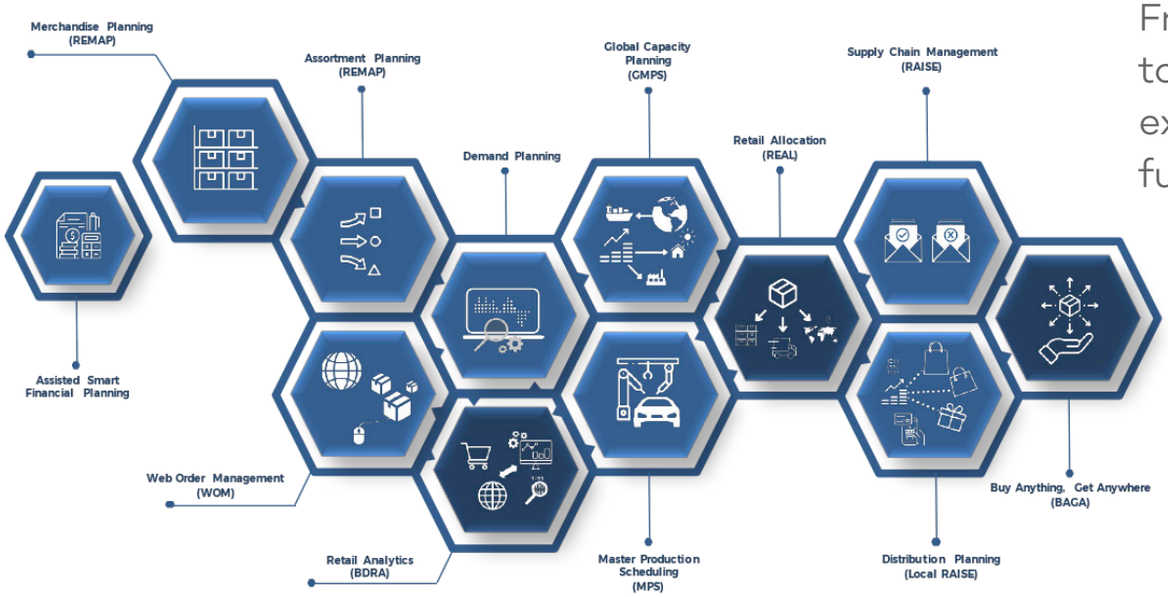
ORS Group is a pioneer in A.I. algorithms and provides optimization software solutions that model the underlying business processes and make decisions in an automated manner for Fortune 2000 companies.

ORS Group's AAD solutions are comprised of over 1,000 proprietary algorithms that are all easily pluggable. This modular software ecosystem is the core of ORS' RAMS platform.

ORS RAMS Features

- Standard modules can be rapidly bolted together to deliver business functions
- Rapidly deploy brand new apps within six months
- Every business process is seen as an asset with associated performance and risk that are optimized
- Single point of integration
- Can be integrated with any legacy system from SAP to old AS/400

The following diagram shows a logical view of the same architecture: it shows how the RAMS Platform "looks" at businesses/ value chains as a set of assets (logistics, production, customers, etc.) with associated performances and risks.



From brand to customer experience fulfillment

Increasing performance and reducing risks require optimization, which the RAMS platform achieves through its proprietary cutting-edge libraries of algorithms.

AAD solutions and Applied AI are the next frontier for business optimization

AAD solutions can transcend the limits of human ability by leveraging Big Data and smart algorithms for business optimization by:

- Creating transparency
- Supporting/automating decision-making
- Creating targeted products and services
- Segmenting populations to customize actions
- Enabling needs-based experimentation
- Driving improvements in cost, performance, quality, and efficiency

ORS' AAD solutions built on its RAMS platform are currently being used in the following real-world applications:

- A large financial system with hundreds of users
- A trader station with real time data flows from thousands of assets
- A large-scale analytics system for a global fashion retailer
- Agricultural optimization and planning
- Energy and gas consumption forecasting
- Energy system simulations and management

For more information, please contact sales@ors.group