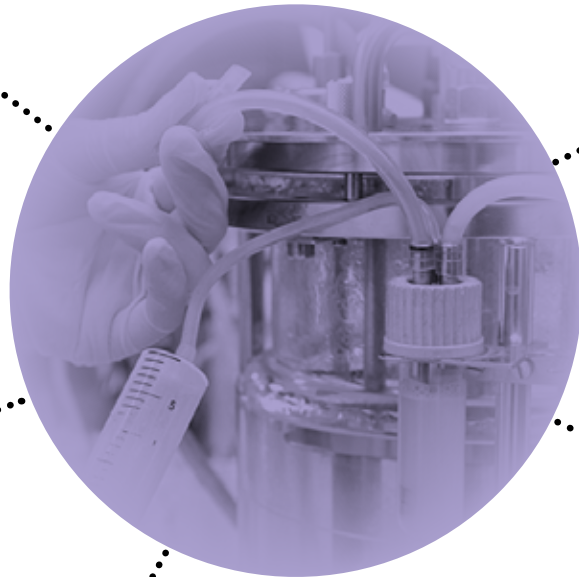
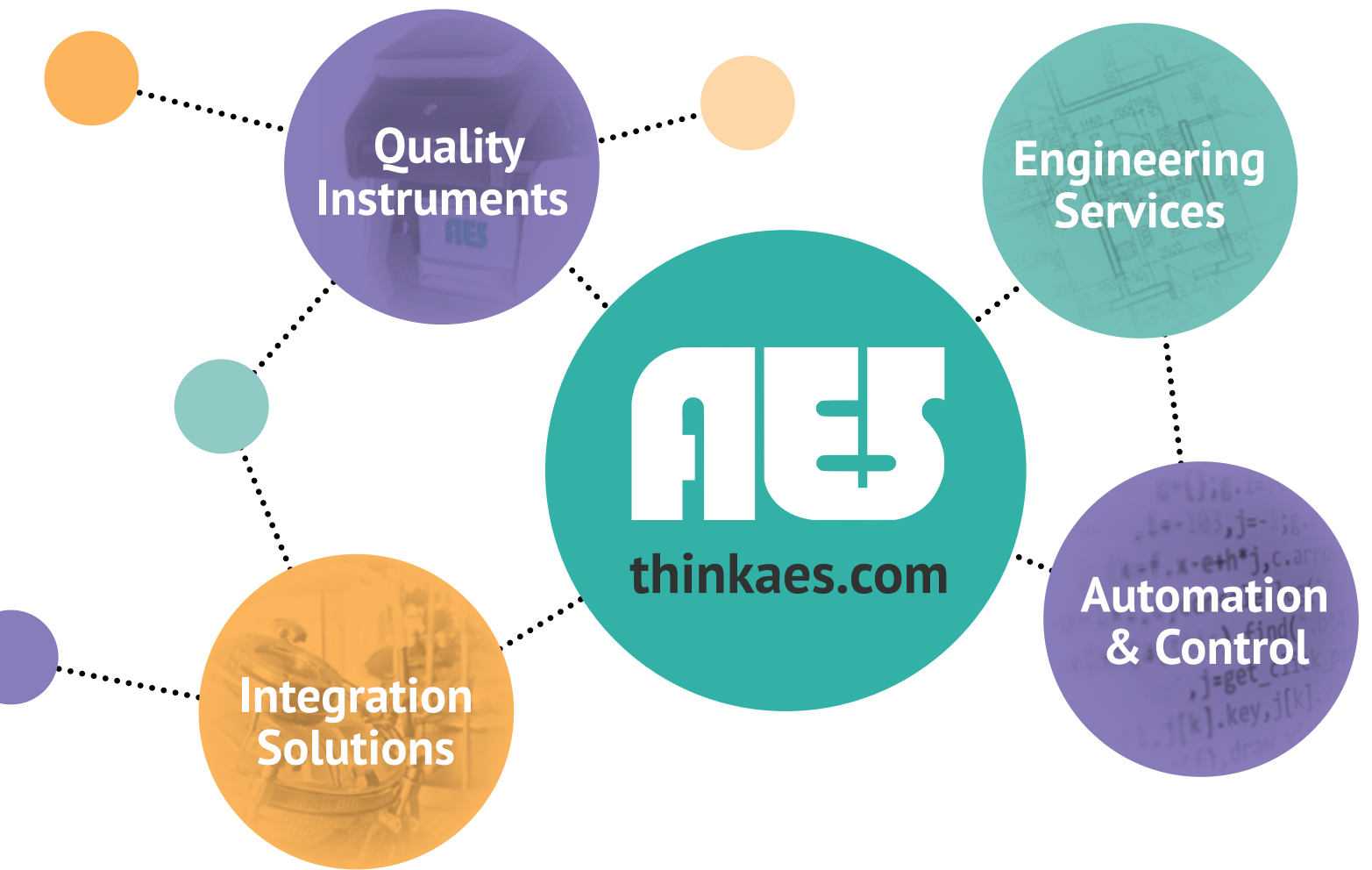




# Solutions For Better Biotech



Integration Solutions ● Engineering Services ● Instrumentation ●  
Automation & Control Systems



## Full-service biotech solutions

At AES we provide a wide range of engineering services, integration solutions, and instrumentation – as well as customized automation and control systems – to the global life science community for R&D to scale-up and GMP commercial manufacturing.

We are 100% dedicated to helping our customers optimize their bioprocessing platforms and streamline operations to speed R&D and reduce manufacturing costs of breakthrough biopharmaceuticals that improve the lives of people across the globe.

Working collaboratively from start to finish, we listen and learn about our customers' needs and unique challenges in order to recommend the best solutions that will help them achieve their goals faster, more efficiently, and at a lower cost.

Our engineering and bioprocessing experts, project leaders, and other industry professionals have deep

knowledge of process sciences, operations, automation and process engineering, maintenance, commissioning, Qualification/Validation, as well as data management and business systems integration.

Our experience spans both upstream and downstream processing through to fill/finish/packaging for fixed, single-use, and hybrid facilities at any scale.

Whether you are a start-up or large-scale manufacturer, whether your project is large or small, count on AES to deliver the solutions and service that meet your specifications – on time and within budget.

## Engineering Services

AES was built on our engineering experience and expertise; and this combination of smarts and skill is how we grew our resume of successful projects for a wide array of biotech customers from start-ups to commercial manufacturers.

Our software and automation hardware strengths include custom panel and instrumentation design as well as fabrication. We have worked extensively with today's leading automation platforms, e.g., Emerson DeltaV™, Rockwell Automation, Siemens Process Automation, Wonderware, and GE Automation, as well as legacy platforms such as Foxboro and Honeywell. Our breadth of experience is how we've gained the expertise to support all types of projects, as well as new and existing facilities.

Along with project work, we can supplement your staff with on-site engineers or project managers when you need added support.

### **Specific engineering services include:**

- Process engineering
- Project management
- Automation architecture
- Automation and control systems, including custom panel design and fabrication
- Equipment and process validation
- Maintenance support
- Data collection and management
- Staff augmentation

## Integration Solutions

AES is a true one-stop integrator. Whether you need to integrate equipment from different vendors in a seamless flow, integrate systems to work optimally together, automate your process, or design a new one, we work closely with you to design and implement the best solution to meet your current and future needs.

With our extensive experience integrating equipment from different manufacturers, we can offer solutions that mix and match your preferred equipment brands with recommendations for compatible consumables. Additionally, our software solutions feature open source code, which enables you to make updates as needed.

We also provide support with data collection, analytics, and business systems integration to ensure the highest degree of operational success and reliability.

### **Specific integration solutions cover:**

- Conceptual design
- Instrumentation/equipment/control
- Automation
- Implementation and startup
- Validation
- Manufacturing
- Business systems (ERP, MES, etc.)
- Optimization



# Quality Products

Whether your instrument or system need is for R&D, scale-up or commercial manufacturing operations, AES experts can help to specify and implement the optimal instrumentation, consumables and system solutions for your application. And if standard product configurations do not meet your exact needs, we can customize or configure a solution that does.

## We provide a wide range of products and system solutions:

- Bioreactors
- Protein Analyzer
- Rockers
- Pump Towers
- Chrom skids
- Centrifugation apparatus
- Filtration
- Media/buffer vessels
- CIP and SIP systems



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