



BioSolve *Process*: Adapt + Transform Your Bioprocess In Silico

BioSolve *Process* is the industry's leading process simulation software that helps drive your operational productivity prior to implementation through cost and sustainability modeling.



biopharma manufacturing



during tech transfer



Minimise your process' environmental impact

NEW in BioSolve *Process* 9

Process Mass Intensity (PMI) • Energy Load

Sustainability Metrics

- Carbon Footprint

for a Wide Range of Therapeutic Modalities

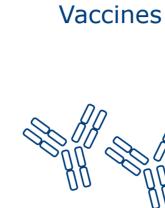
More Than mAbs

Model Manufacturing Processes









Biosimilars



Antibody-Drug

Conjugates

Years in Business

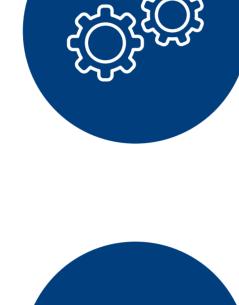


Professional Users

100% Supply Chain Coverage

CONFIGURE

Empowered Bioprocess Modeling



SCALE

• Choose from unit operations Knowledge Base

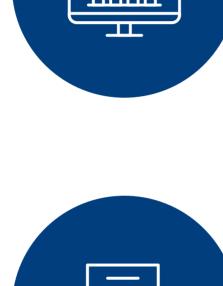
• Modify parameters and determine impact

 Evaluate production capacity • Estimate scale-up costs

• Easily scale unit operations

Apply industry-averaged costs

Develop business cases

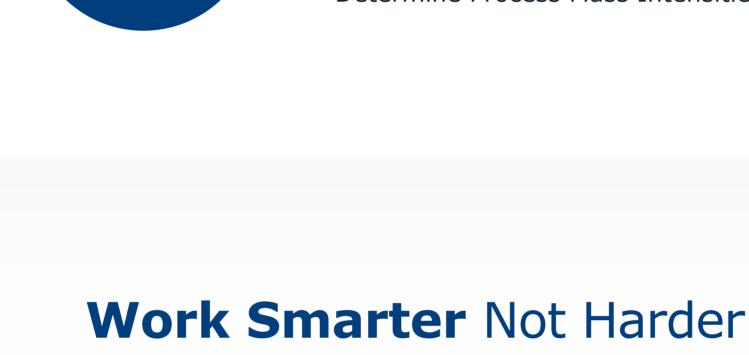


Avoid surprises

ANALYZE

Mitigate risk

- **REPORT**
- Visualize data Prepare bills of material



Be in control of your process platform, cost

optimization, supply chain, and maintenance needs.

COST STRUCTURE

• Determine Process Mass Intensities (PMI)

Single-Use Capital Labour

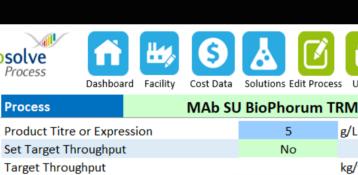
Kits



Batch

Fed-Batch

PLATFORM



Production Bioreactor Working Volume

No. of Bioreactors Pooled per Harvest

Estimated Number of Batches per Year

Advanced Solution Management

Media Preparation (up to 2000L)

Buffer Preparation (up to 2000L)

Threshold / Max. Bag Size

Media and Buffer Hold (up to 3000L)

Use Stainless Steel above Threshold

Calculated Working Volume

Target Capacity Utilisation

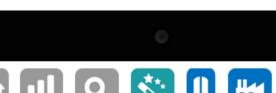
No. of Installed Bioreactors

Campaign Length

Facility Reference

Single-Use Systems

Continuous



Charts

140 ğ 120

100

80

60

40

20

Consumables

Labour

Cost Breakdown by Category USD

g/L

kg/yr

Months

No

2000

80%

12

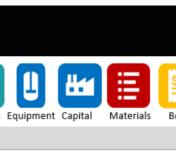
Yes

Yes

Yes

2000

Greenfield



Batch

→ iram

5.6

15.2

3.4

92,055 13.1

129,132 18.4

391,553 55.7

39,604

106,907

23,856

Dose

1.7

1.0

%

10%

6%

CDMO's

Process Development

Manufacturing Science

Sustainability Directors

Supply Chain Management

Osamu Shirokizawa

Product Managers

3.9 24%

5.5 33%

4.6 27%

16.7 100%

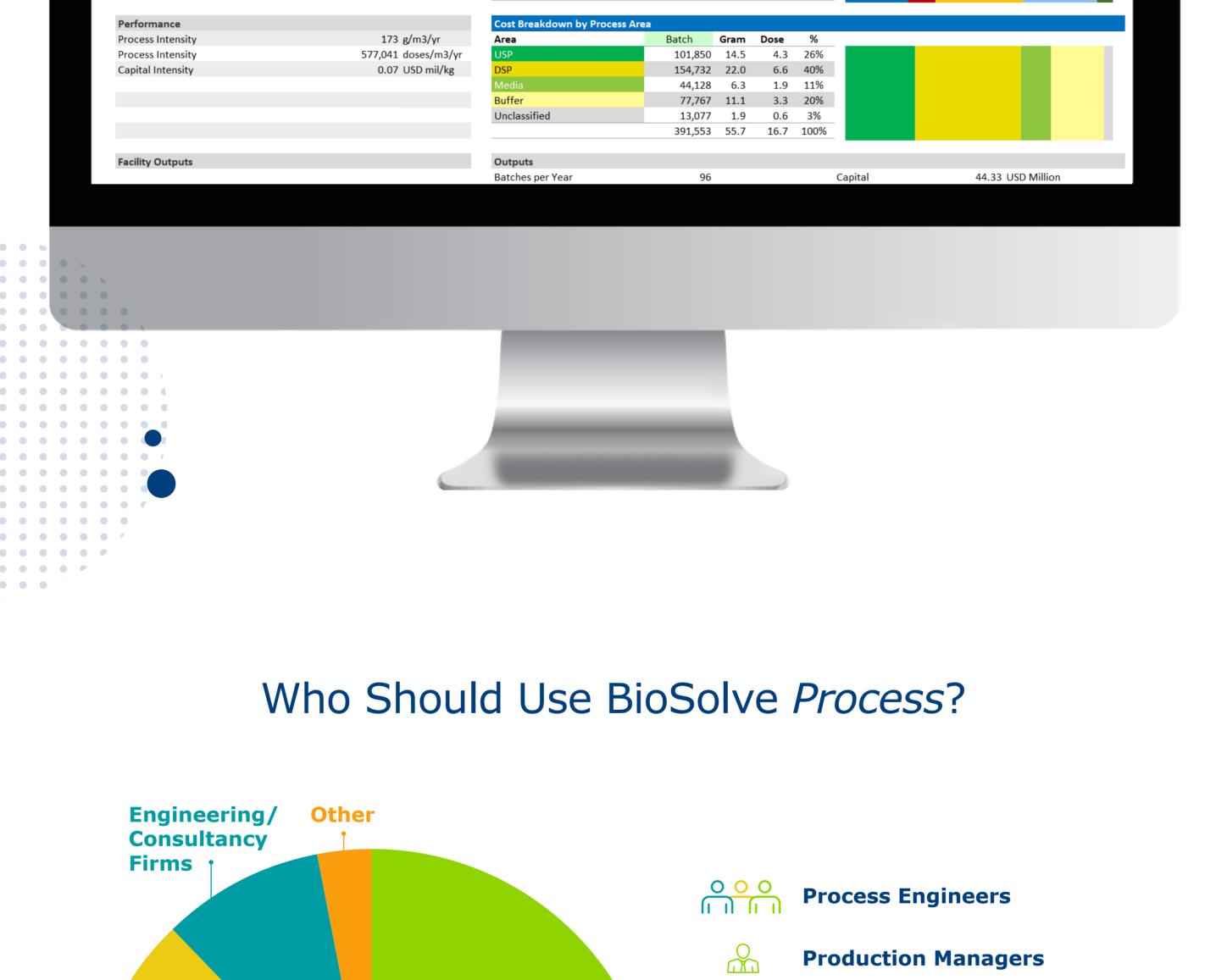


KITS + SUPPORT

Support

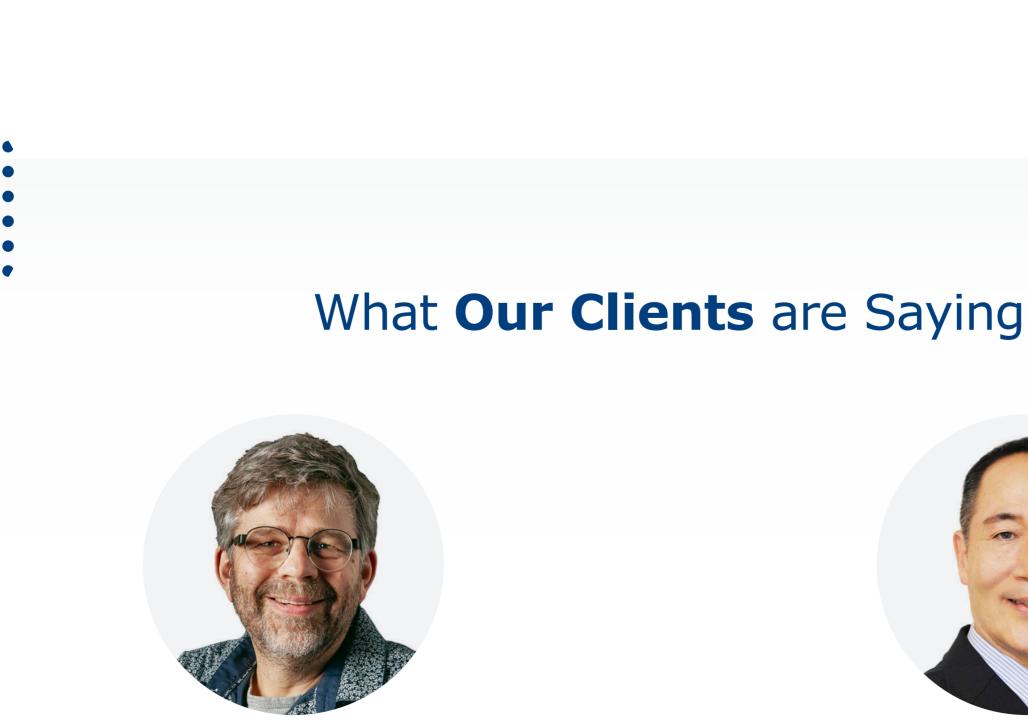
Equipment





Academics

Biomanufacturers



Alfred Luitjens

Suppliers

BATAVIA BIOSCIENCES LIFE SCIENTIA "BioSolve *Process* is a powerful tool. "BioSolve Process is not only an I could see other cost categories advantageous analytical tool in the that I needed to add. planning & designing of biotech facilities, it is also a powerful tool that helps us It helped me account for items that communicate with our clients." weren't immediately obvious."



Measure with the Sustainability Metrics Add-on Module for BioSolve Process Learn more at **biopharmservices.com**

Biopharm Services Ltd.