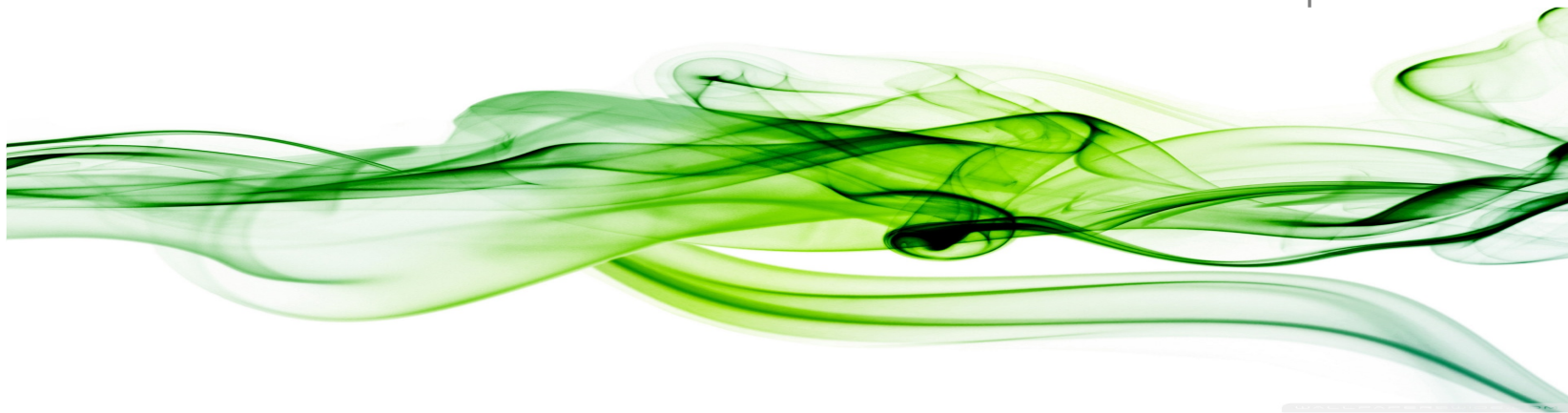


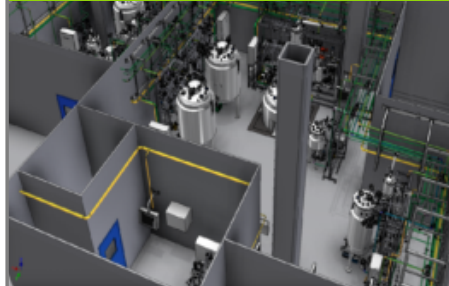
**Biozeen approach to steering covid - 19
vaccine manufacturing dynamics**

Vibin Joseph

3rd Nov, 2020



Value Added Integration Services



Automation



Training



Design & Build



Regulatory & Validation Services

Bioprocess Engineering

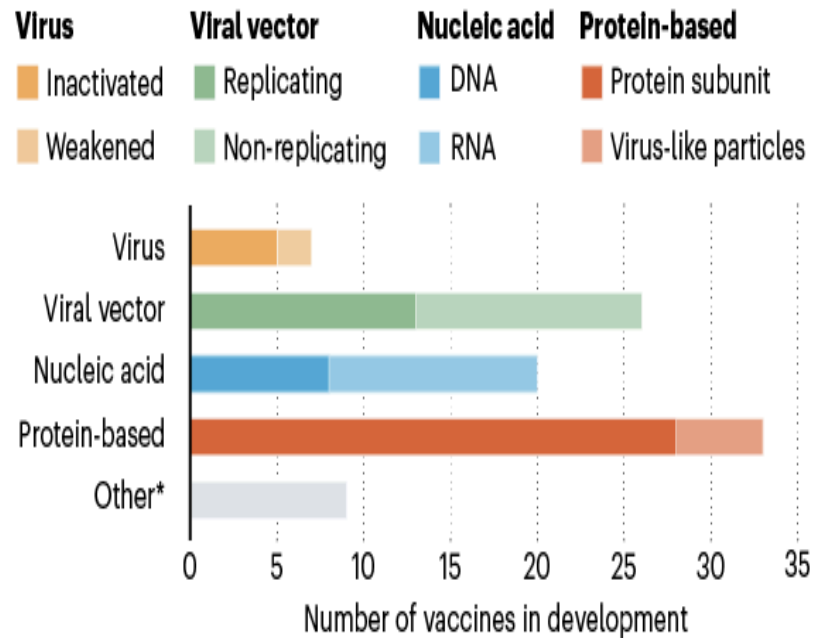


COMPLETE
**BIOPROCESS
ENGINEERING**
SOLUTIONS

 **BiOZEEN**

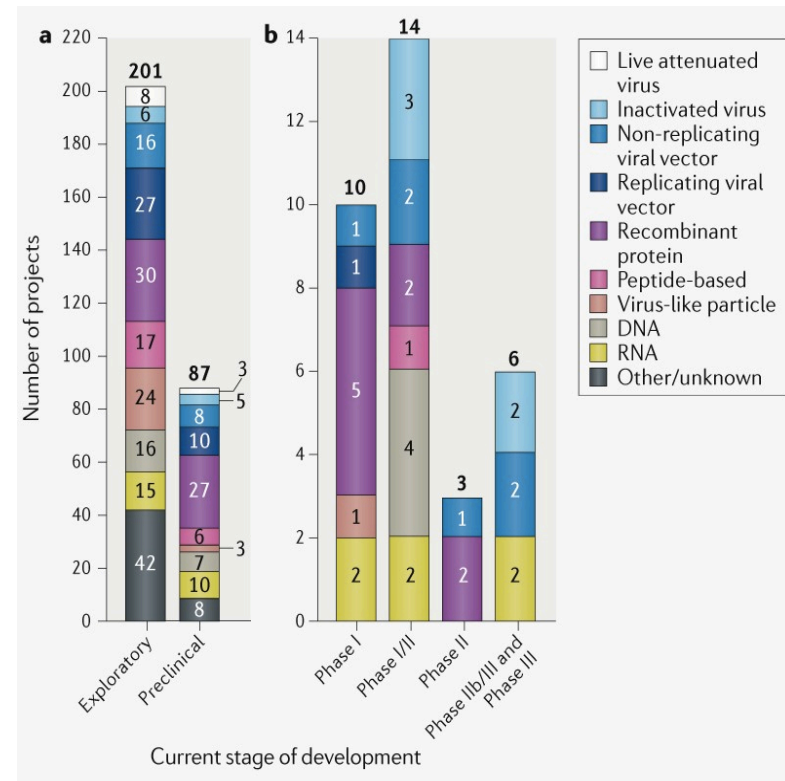
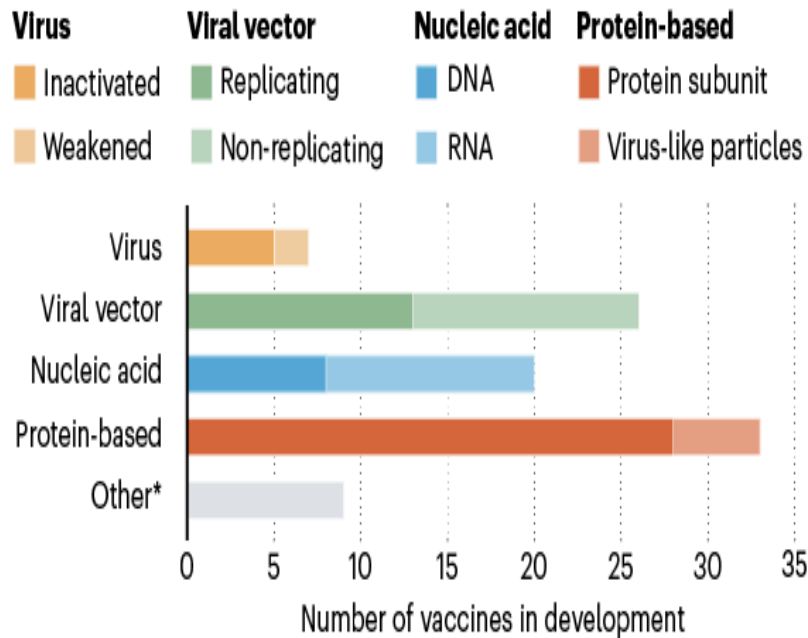


AN ARRAY OF VACCINES



On a positive note, we have about 100+ vaccine candidates in trials across several platforms (Callaway, 2020).

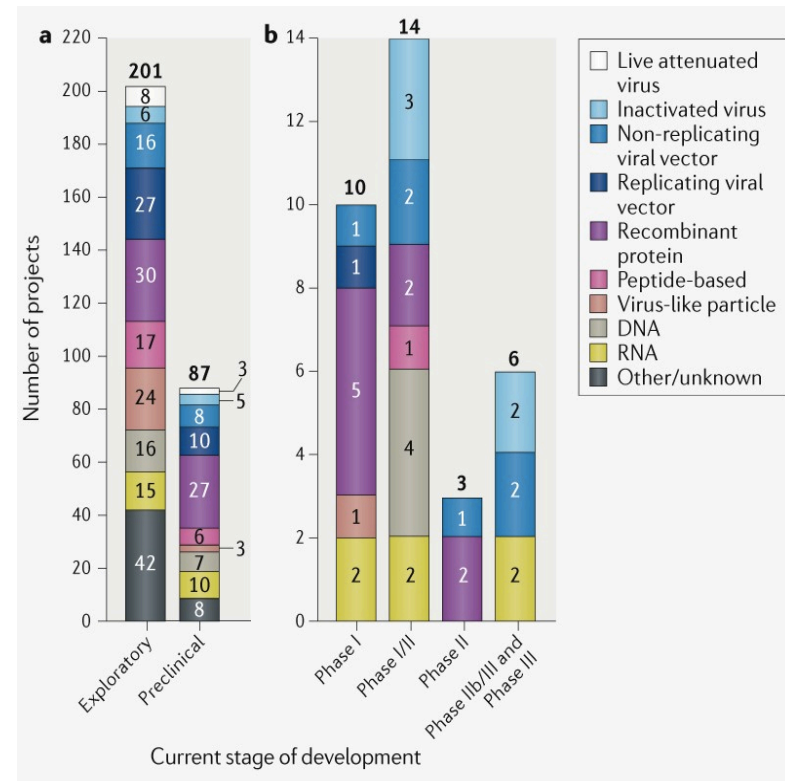
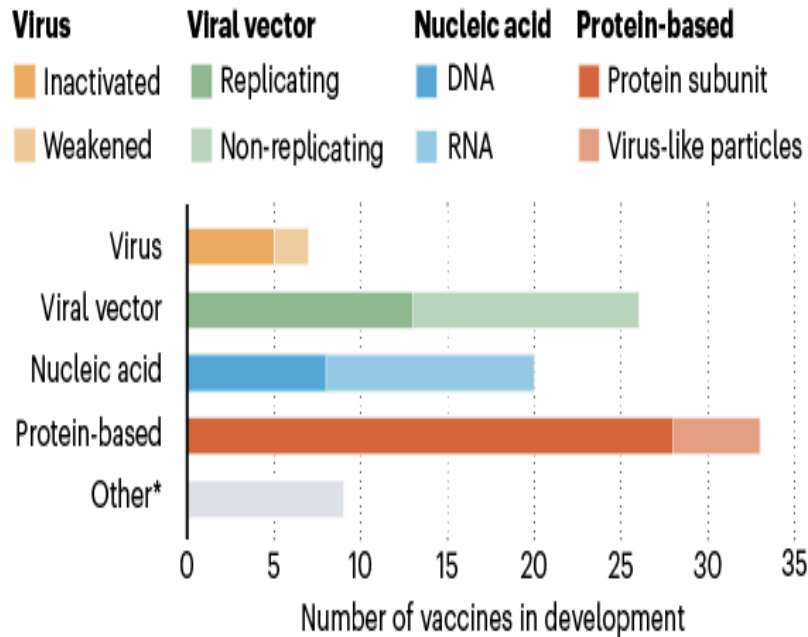
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Similarly, to be up to speed, Biozeen is also enabling efficient production through analysis.

Tailoring for COVID vaccine dynamics

With different formulation, specific upstream production and downstream requirements we leveraged our expertise in:

- **Live attenuated vaccines: Yellow fever, MMR, Chicken pox**
- **Inactivated vaccine: Rabies, polio, Hepatitis A**
- **Recombinant/subunit vaccines: HPV, Hepatitis B, Shingles**
- **mABs**
- **Cell line: CHO, VERO, Sf9 insect cells**

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And generalized these manufacturing approaches for a quick switch adaptable universal design of hardware and software through:

- **Flexibility: Leveraging your existing resources into the entire production gambit**
- **Speed: Jump starting fast – Need of the hour!**
- **Cost: As you are accelerating the process in parallel, without waiting for confirmation of success in the previous step and elevating financial risk**
- **Humanized modular construction: On a need basis, customized to your facility for a rapid switch on**

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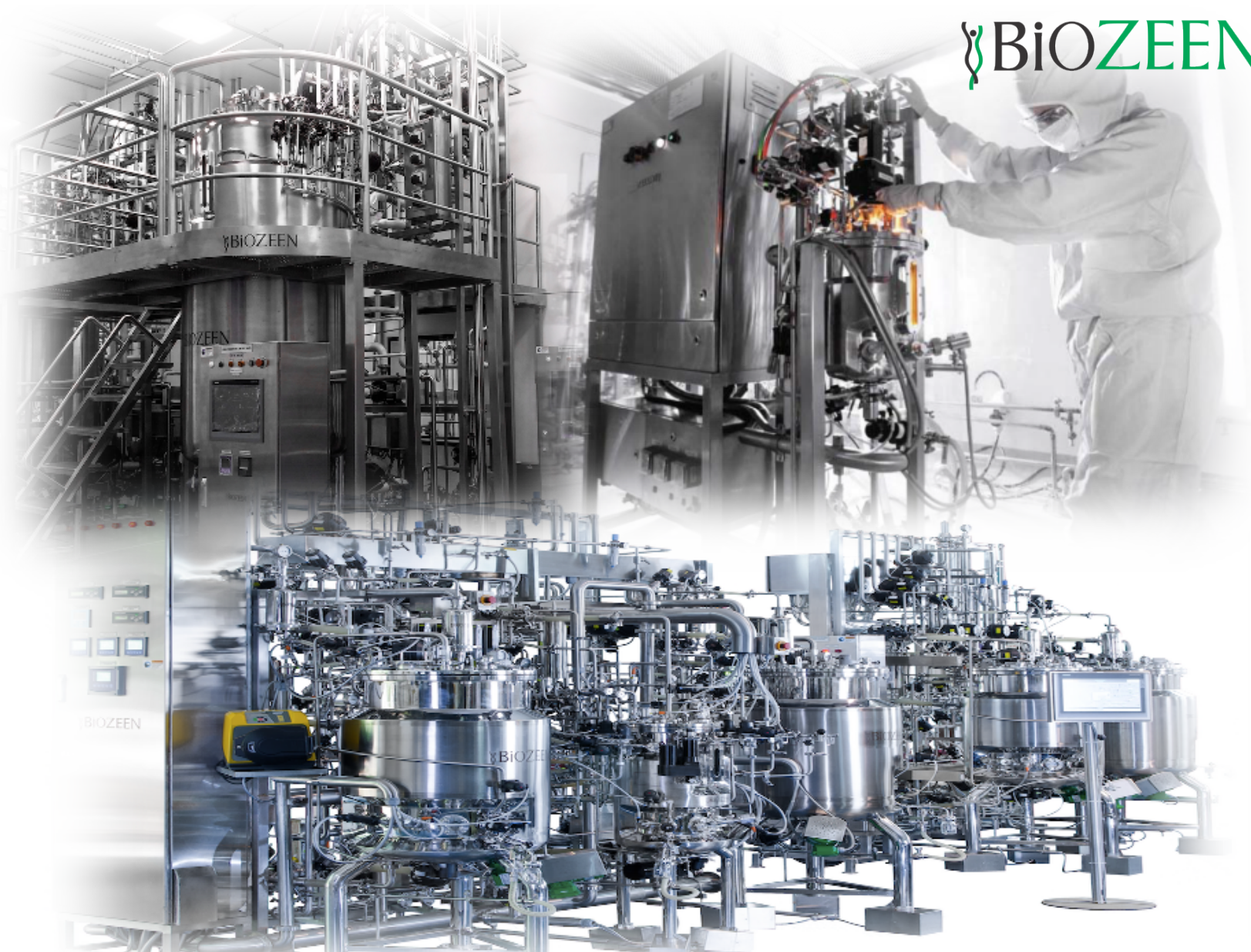
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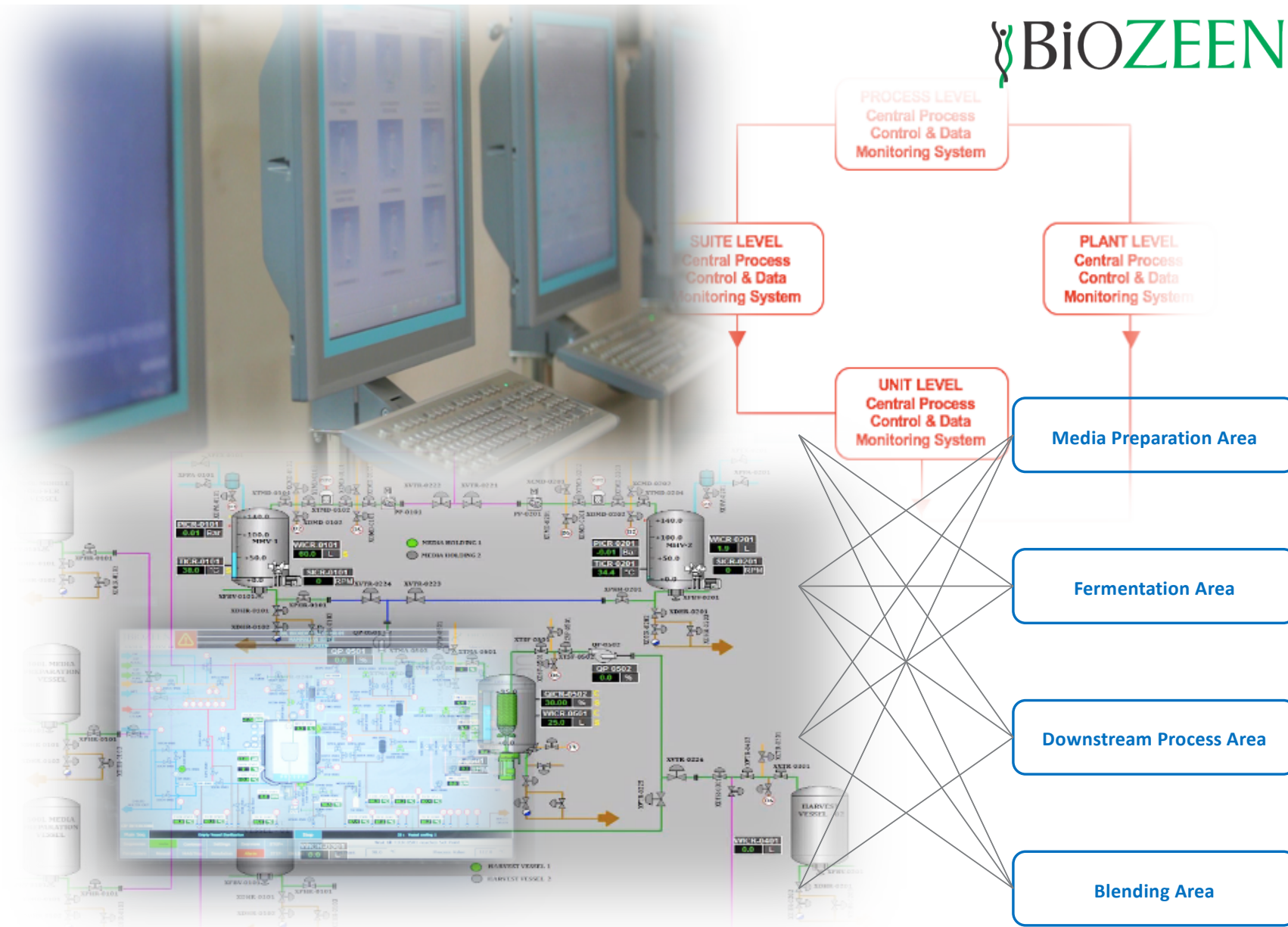
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Ensuring high titers and yields in pilot scale production and supporting scalability for further clinical development

 **BioZEEN**





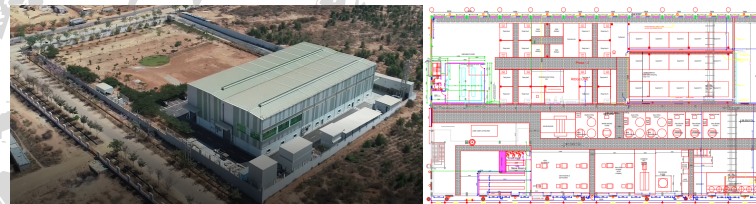
Head Quarters: Bangalore

Employees: 312

Number of Business Lines: 6

Industry recognitions: 6

- 5 COVID vaccine manufacturers in 4 countries & 3 continents
- 24/7, 365 days
- New facility
- Empowered 900+ professionals to serve the industry
- Delivered solutions that are 65% energy efficient
- Rendering services to 20 countries in Americas, Asia, Africa, Europe and Oceania
- Served 48 customer across borders
- DSIR certified GMP compliant Bio pilot Laboratory for Microbiological & Physiological Testing



We are into the business of Saving Lives™