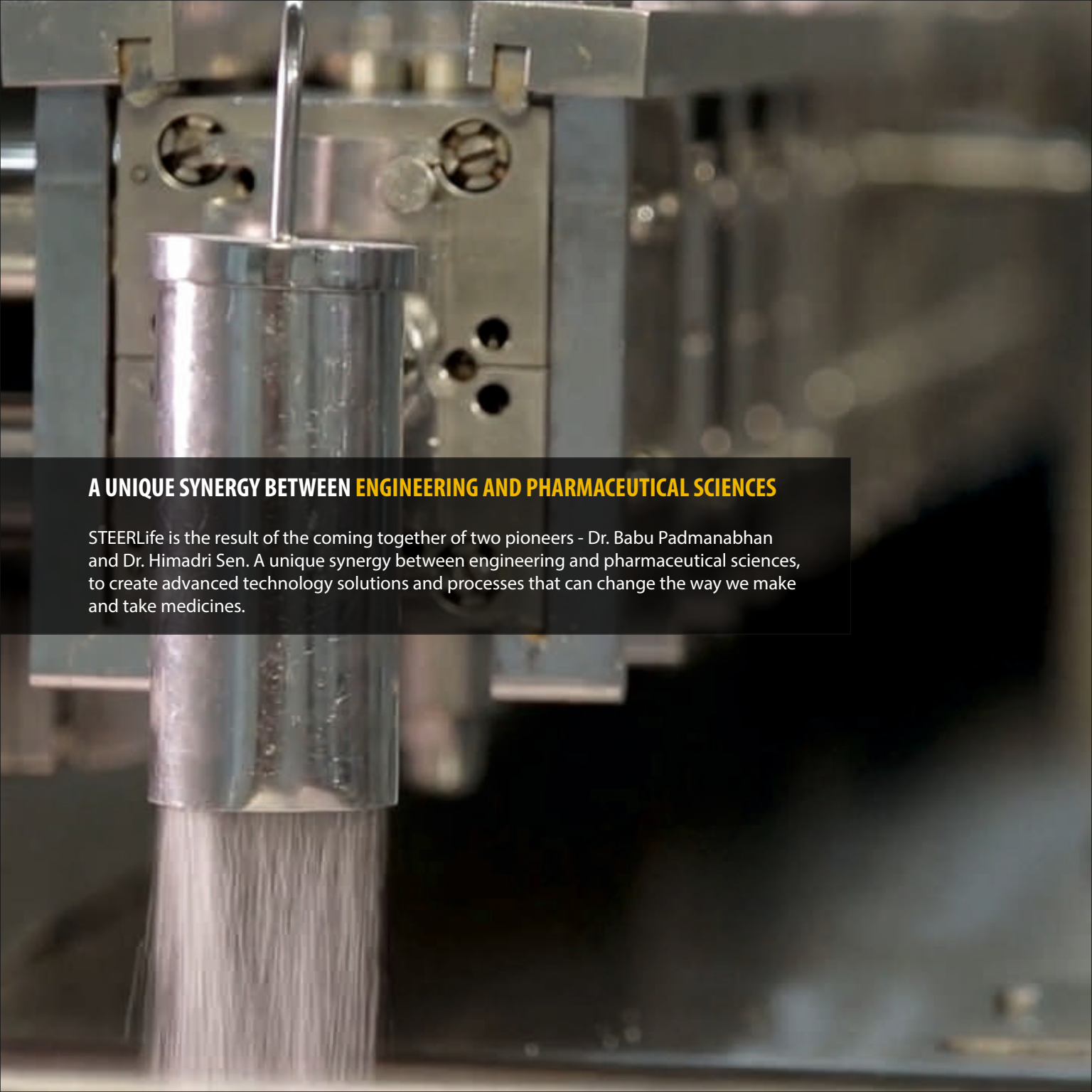
STEER Life

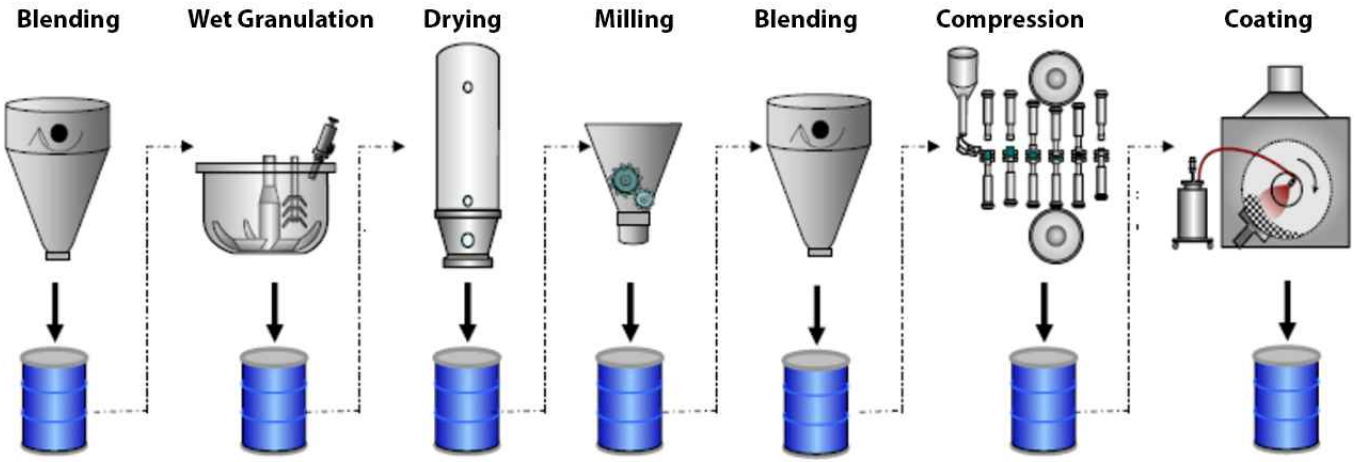
CHANGING

THE WAY WE MAKE AND TAKE MEDICINES



A UNIQUE SYNERGY BETWEEN ENGINEERING AND PHARMACEUTICAL SCIENCES

STEERLife is the result of the coming together of two pioneers - Dr. Babu Padmanabhan and Dr. Himadri Sen. A unique synergy between engineering and pharmaceutical sciences, to create advanced technology solutions and processes that can change the way we make and take medicines.



CURRENT BATCH MANUFACTURING PROCESS - LOW EFFICIENCY, LOW QUALITY, HUGE BURDEN

The batch manufacturing process, followed by the industry even today, requires sample collection and testing after each unit of operation to assure quality. The actual processing time runs into days and weeks. This results in low efficiency in terms of cost and time, inconsistencies in quality and sub-optimal yield, besides being a regulatory burden. Batch processing also requires large manufacturing spaces, increasing the footprint required for production.

IT'S TIME TO CHANGE

"Right now, manufacturing experts from the 1950s would easily recognize the pharmaceutical manufacturing processes of today. It is predicted that manufacturing will change in the next 25 years as current manufacturing practices are abandoned in favor of cleaner, flexible, more efficient continuous manufacturing"

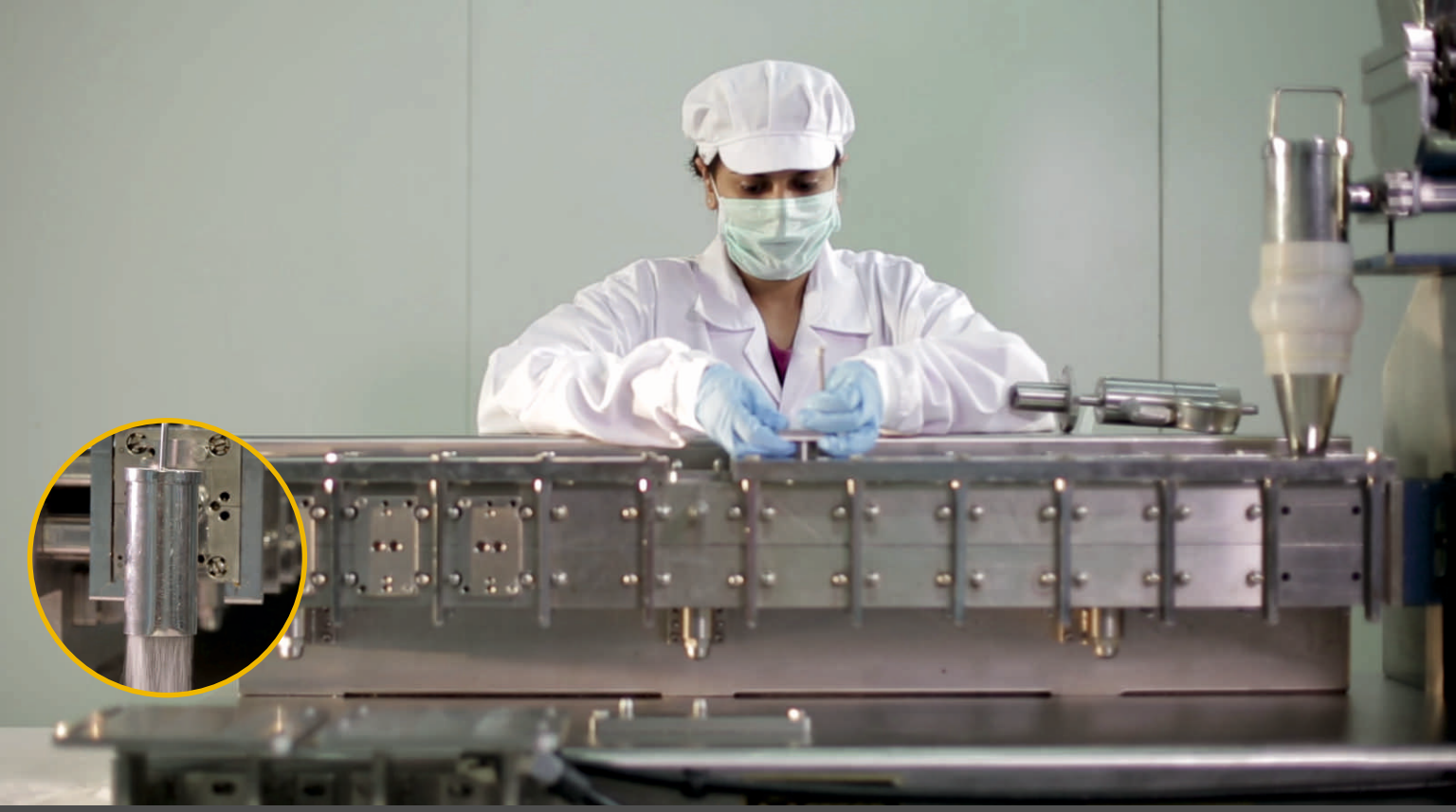
Dr. Janet Woodcock
M.D., Director, USFDA, Center for Drug Evaluation and Research

"The whole industry is discussing continuous manufacturing. The other issue related to mindset is that companies have to change the way they are doing Process R&D, and that takes effort"

Bernhardt Trout
Director of the Novartis-MIT Center for Continuous Manufacturing

"I don't know why it's not more widely used" as "this is the future."

Dr. Janet Woodcock
M.D., Director, USFDA, Center for Drug Evaluation and Research

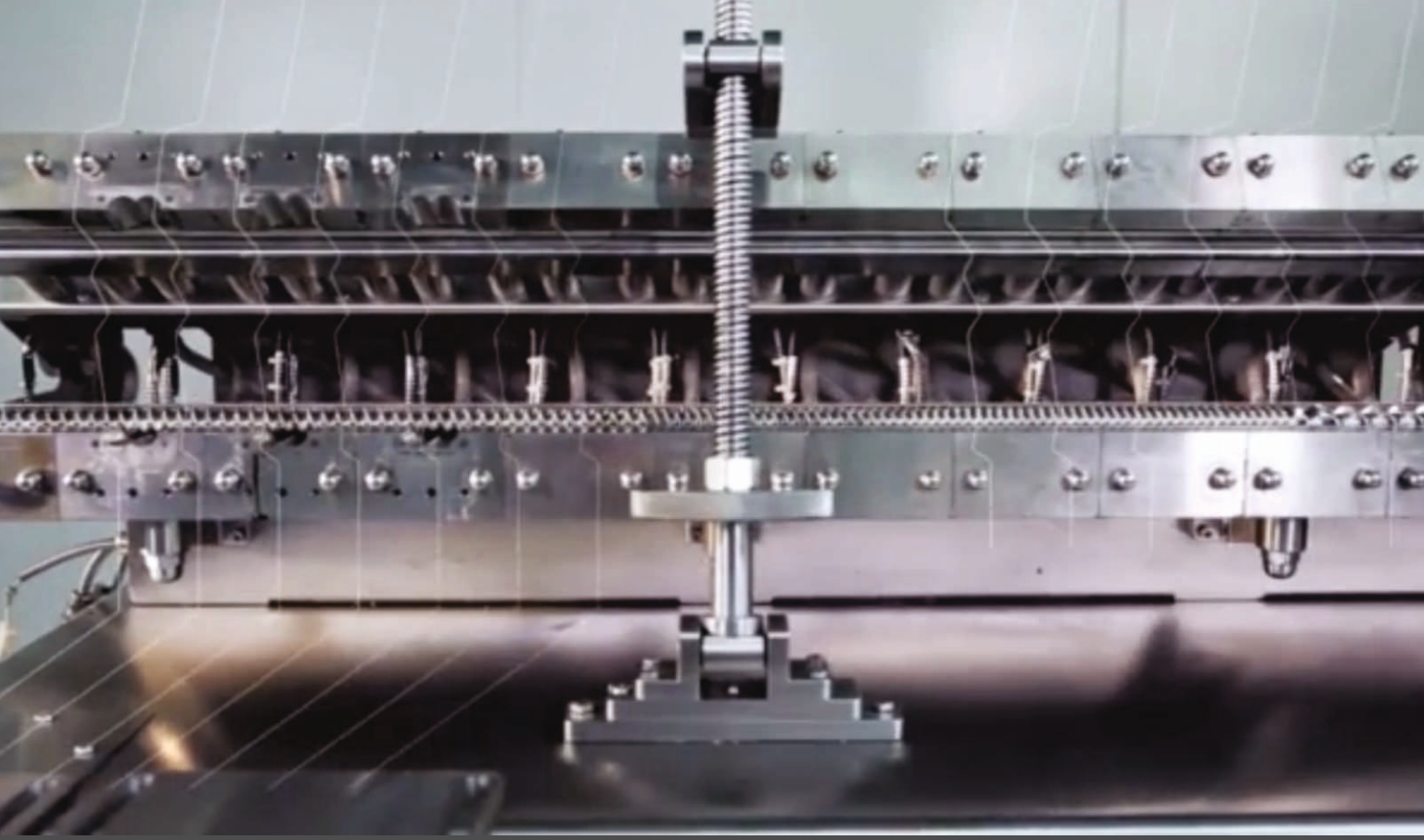


STEER*LIFE'S* NOVEL BATCH TO CONTINUOUS (B2C) PROCESSES USING THE FRACTIONAL LOBE PROCESSOR

In STEERLife's continuous manufacturing processes, materials are charged and discharged simultaneously during the processes. This not only allows for better consistency, it hugely impacts speed, scale of production and efficiency, besides significantly reducing the manufacturing footprint required for production.

- Novel hot melt extrusion (B2C –E) - can replace conventional hot melt extrusion
- Hot Melt Fragmentation* (B2C- F) - can replace spray drying and spray congealing
- Activated Granulation (B2C –G) - can replace conventional wet, dry and melt granulation.
  - Melt Granulation
  - Moisture / Shear Activated Dry Granulation*
  - Continuous wet Granulation*

* Patent pending



PROCESSES DEVELOPED USING STEER*LIFE'S* PROPRIETARY TECHNOLOGIES HAVE THE FOLLOWING FEATURES:

- Continuous process eliminating hot spots and dead zones
- Self cleaning (self – wiping), no residues of earlier runs
- Economical development
- Ease of scalability (both linear and non-linear)
- Traceable (stratified continuous stream)
- Versatile (Easily adaptable to meet differentiated needs during process development)
- Quality by design (Well established risk and product quality)
- No metal dust contamination

TRANSFORMING MEDICINE INTAKE

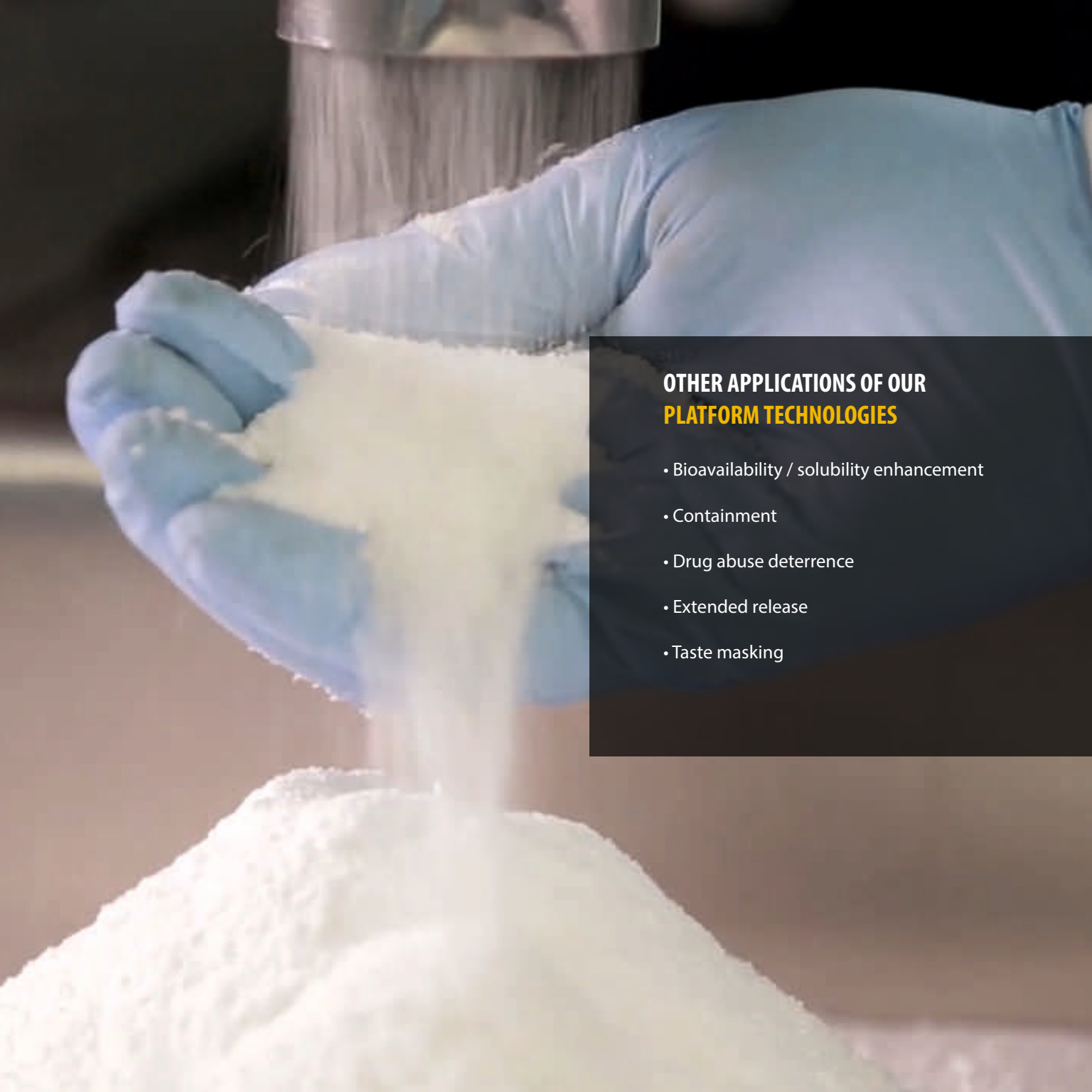
EFFERVESCENCE (EVT)*
Effervescent compositions offer unique advantages such as administration in solution form. They are particularly useful for people with gag reflex or swallowing difficulty. Effervescent compositions from conventional techniques suffer from low carbon dioxide (CO_2) content, low porosity, longer disintegration times and have low mechanical strength. STEERLife's advanced processes help create effervescent compositions with increased porosity, rapid disintegration times and high mechanical strength while retaining a greater percentage of CO_2 (from the input blend).

*Patent Pending

EFFERVESCENT TABLET FOR ORAL SOLUTION — useful for people who have problems swallowing. They are also helpful for improving the bio-availability of various classes of drugs. Converting the dosage forms into effervescent flavoured and sweetened oral solutions will enhance the acceptability of the medications.

RAPIDLY DISINTEGRATING TABLETS FOR ORAL SUSPENSION — Rapidly disintegrating tablets (RDTs) are solid unit dosage forms with improved patient compliance. RDT's are especially helpful for children and older people who have problems in swallowing. These tablets disintegrate and disperse rapidly in a glass of water.

ORALLY DISINTEGRATING TABLETS (ODTs) — ODTs disintegrate with saliva and do not require any external source of liquid for consumption. They are especially useful for patients with dysphagia, or even children who are too young to swallow tablets or capsules.



OTHER APPLICATIONS OF OUR PLATFORM TECHNOLOGIES

- Bioavailability / solubility enhancement
- Containment
- Drug abuse deterrence
- Extended release
- Taste masking

ADVANCED PLATFORM TECHNOLOGIES FOR LAB AND PILOT SCALE NEEDS

At STEERLife, we design and develop advanced, customised, scalable platforms that can help manufacturers and research departments test and create formulations at the lab-level which can be easily scaled up for commercial needs. We also serve as a commissioned solutions provider to companies for lab and production-related technology requirements. Our platforms provide the necessary control, are scalable and can be customised to specific needs and requirements.

OMICRON 10 PHARMA — FOR PHARMACEUTICAL R&D LAB

The above equipment is an example of the Omicron platform customised for specific requirements

B2C 12 — FOR PHARMACEUTICAL R&D LAB AND PILOT PRODUCTION

The above equipment is an example of the B2C 12 platform customised for specific requirements

CUSTOMISED SOLUTIONS FOR COMMERCIAL NEEDS

B2C -E (Novel Hot Melt Extrusion), B2C -F (Hot Melt Fragmentation) and B2C- G (Activated Granulation)

ENGAGING WITH STEER*Life*

B2C Technology Solutions
- Large Volume Formulations / API
- Co-Processed API
- Containment

Licensing Opportunities
- New Brands
- Life Cycle Management
- Line Extension
- Pediatric Dosage Forms

Differentiated Products
- High Performance Effervescent Granules
- Directly Compressible API
- Beyond Therapeutics (Over-the - counter, Nutraceuticals, Beverages)

IT'S TIME TO CHANGE

OUR GLOBAL CONTACTS

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