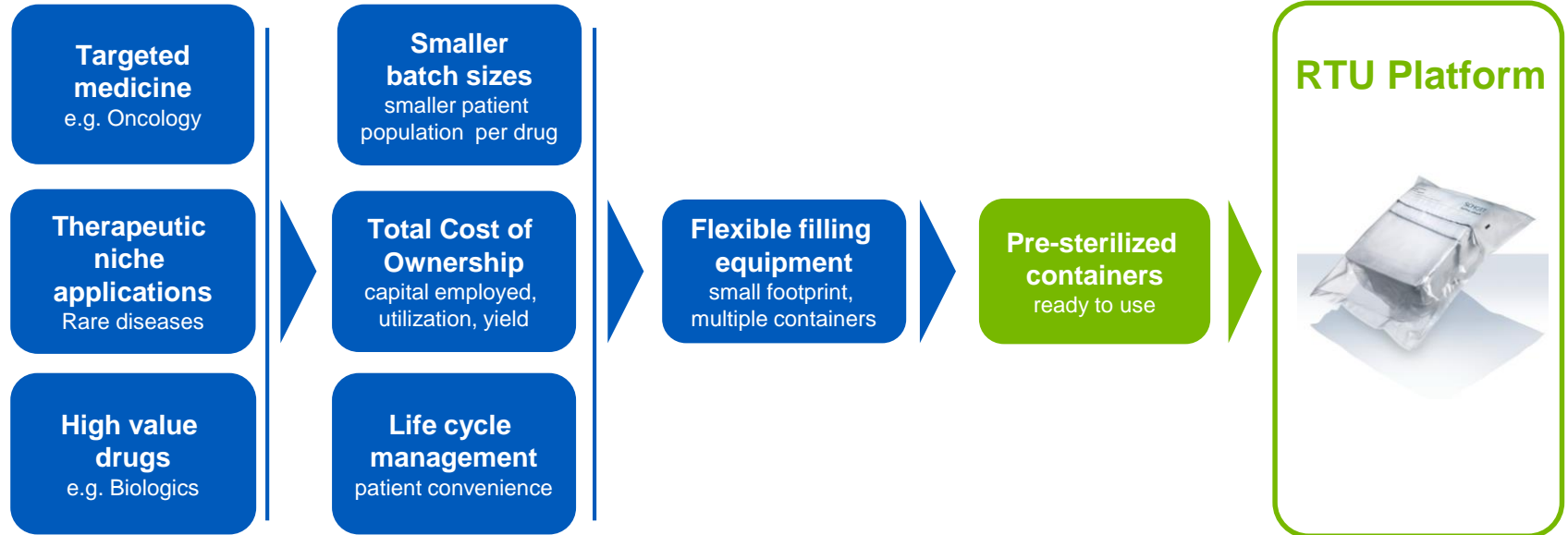




SCHOTT Pharmaceutical Systems

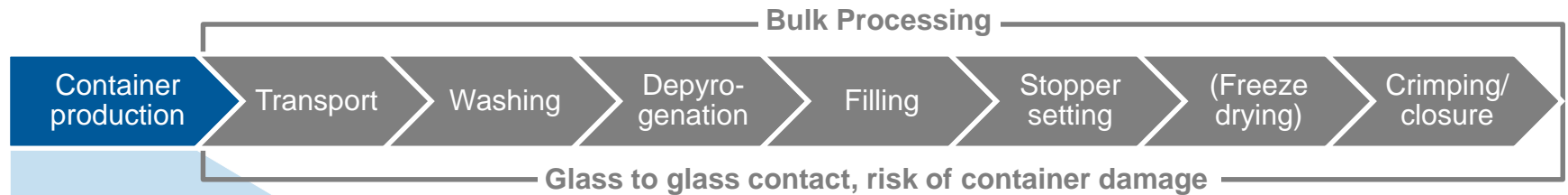
adaptiQ® - ready-to-use vials for aseptic processing

Today's market trends require flexible filling concepts and pre-sterilized (RTU) containers



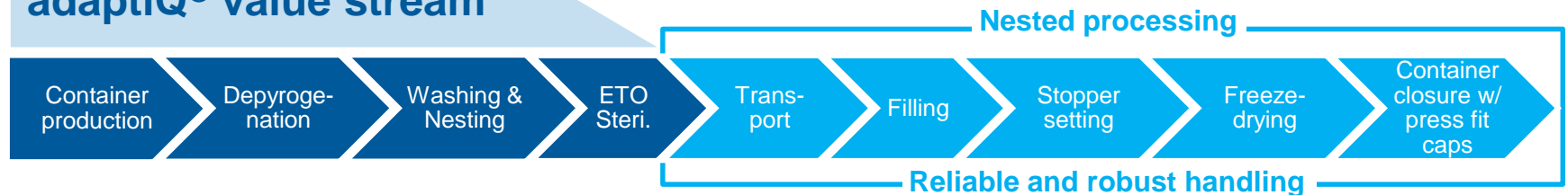
Forward integration allows SCHOTT to provide ready to use vials that mitigate challenges with today's bulk processing

Traditional value stream



Forward integration

adaptiQ® value stream



adaptiQ[®] vials allow you to focus on the core process steps and facilitate zero defect production

Use of industry standard packaging

Flexibility

- › Use of existing nested filling equipment
- › Use of novel filling equipment optimized for small batches
- › Compatibility to existing transfer systems into the aseptic filling suite

Innovative nest

Quality

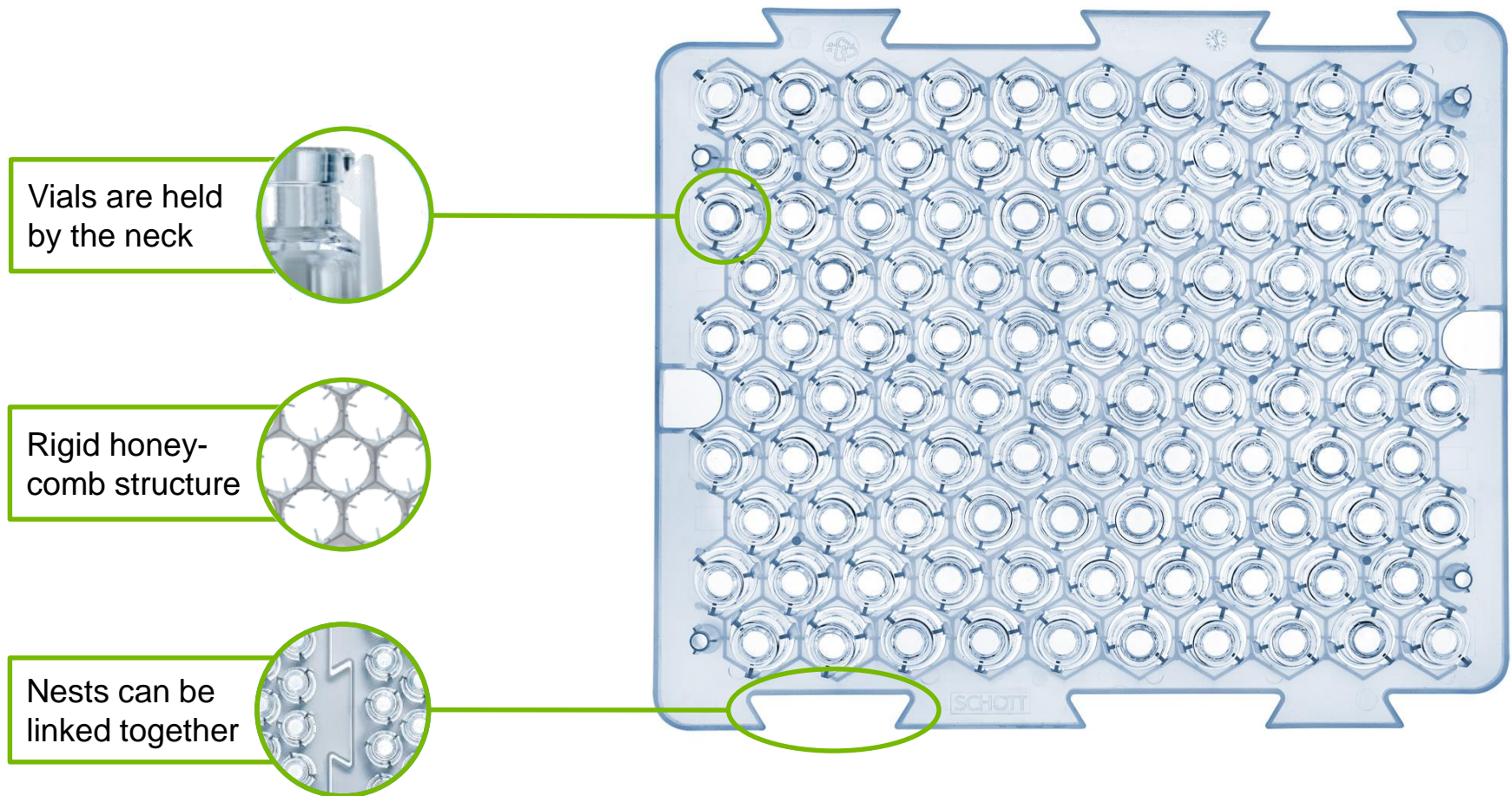
- › No glass to glass contact during transport, fill & finish
- › Filling, lyophilization and closure of vials possible in the nest
- › Simplified and stable loading and unloading of freeze dryer

Ready to use

Total cost of ownership

- › No preparation of components required
- › Increased line availability with shortened changeovers
- › Reduced capital employed and smaller production footprint

adaptiQ[®] vials are supported by the collar from below to enable processing within the nest



The innovative nest design comes within a standard tub but the advantages are unique

Broad compatibility:

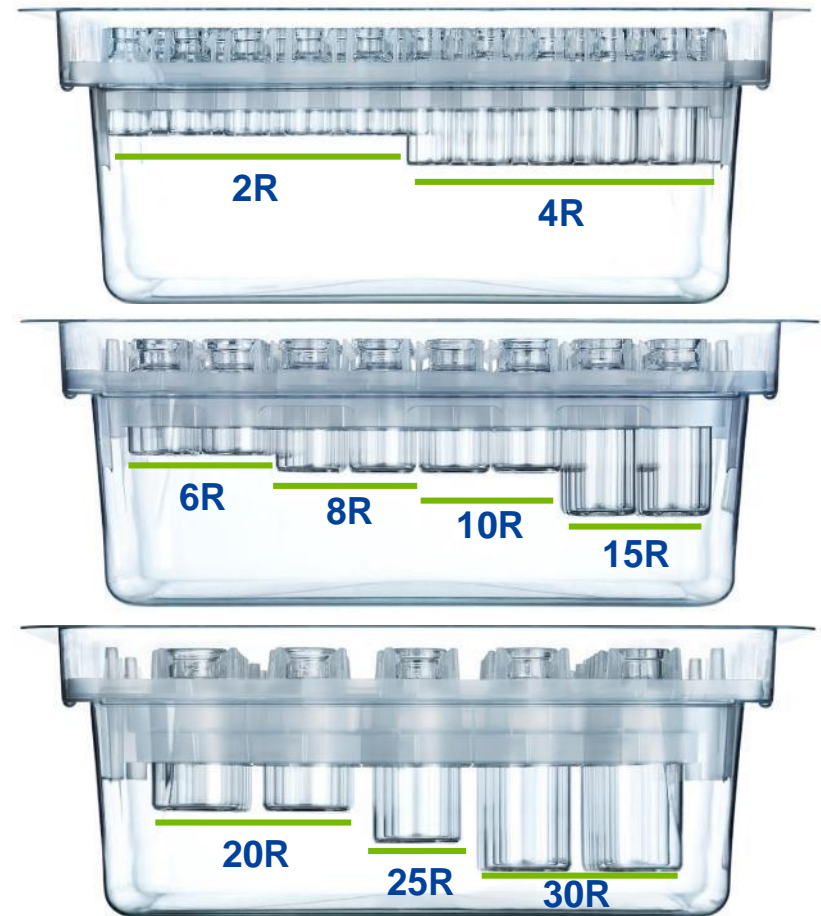
- Industry standard tub format
- Easy transfer into aseptic filling suite
- Compatible with existing and novel filling equipment

3 nestformats for all DIN-ISO vials:

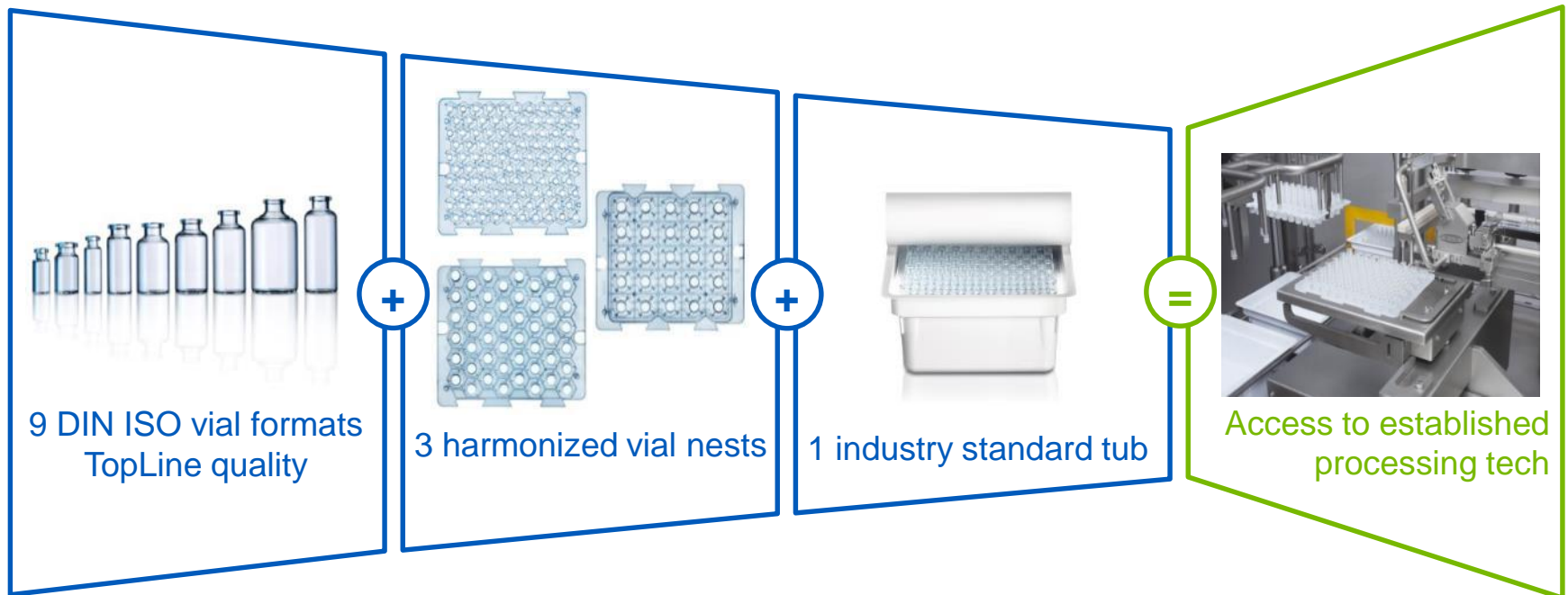
Format	Pcs / nest	Pcs / Box	Pcs / Palette
2/4R	100	1.500	22.500
6/8/10/15R	48	720	10.800
20/25/30R	25	375	5.625

The future of aseptic vial processing :

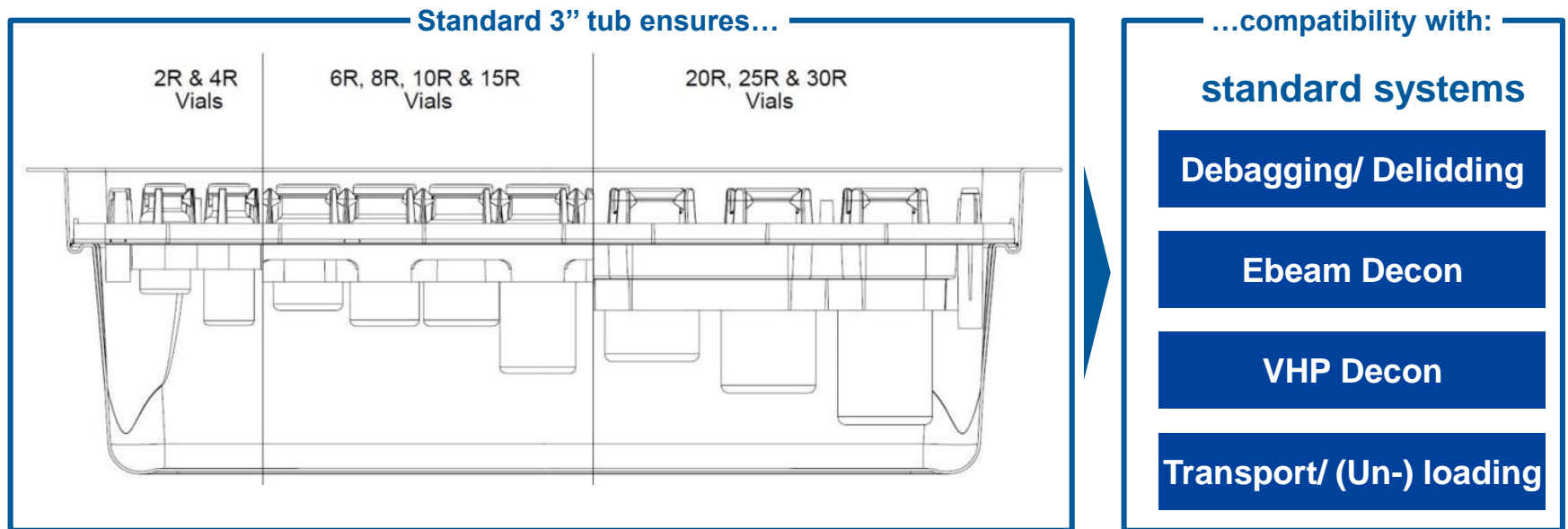
- Research & Development
- Clinical trials
- Commercial filling



Standard packaging allows for accelerated market adoption

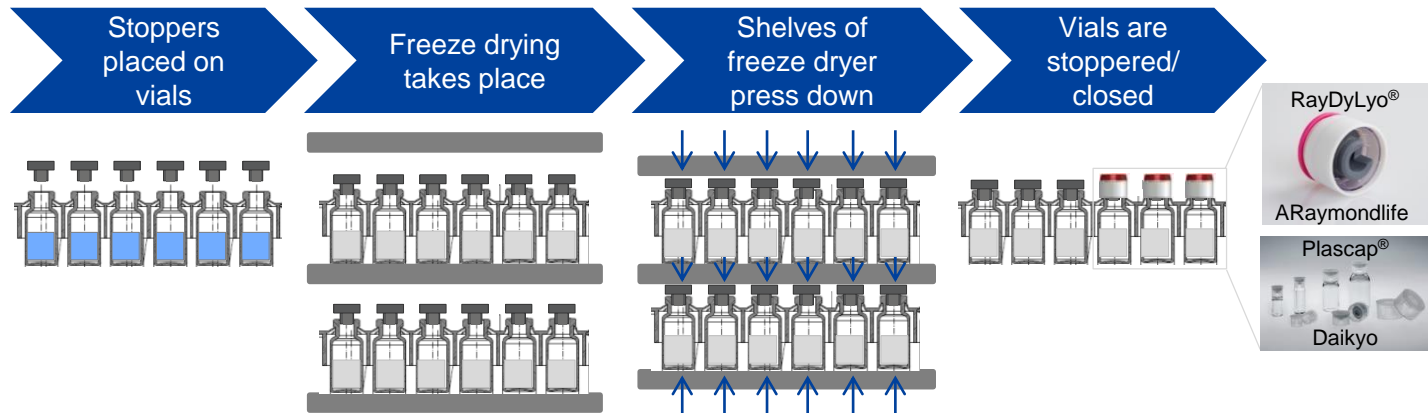


The adaptiQ® portfolio covers all ISO vial formats with three nest sizes in a standard syringe tub



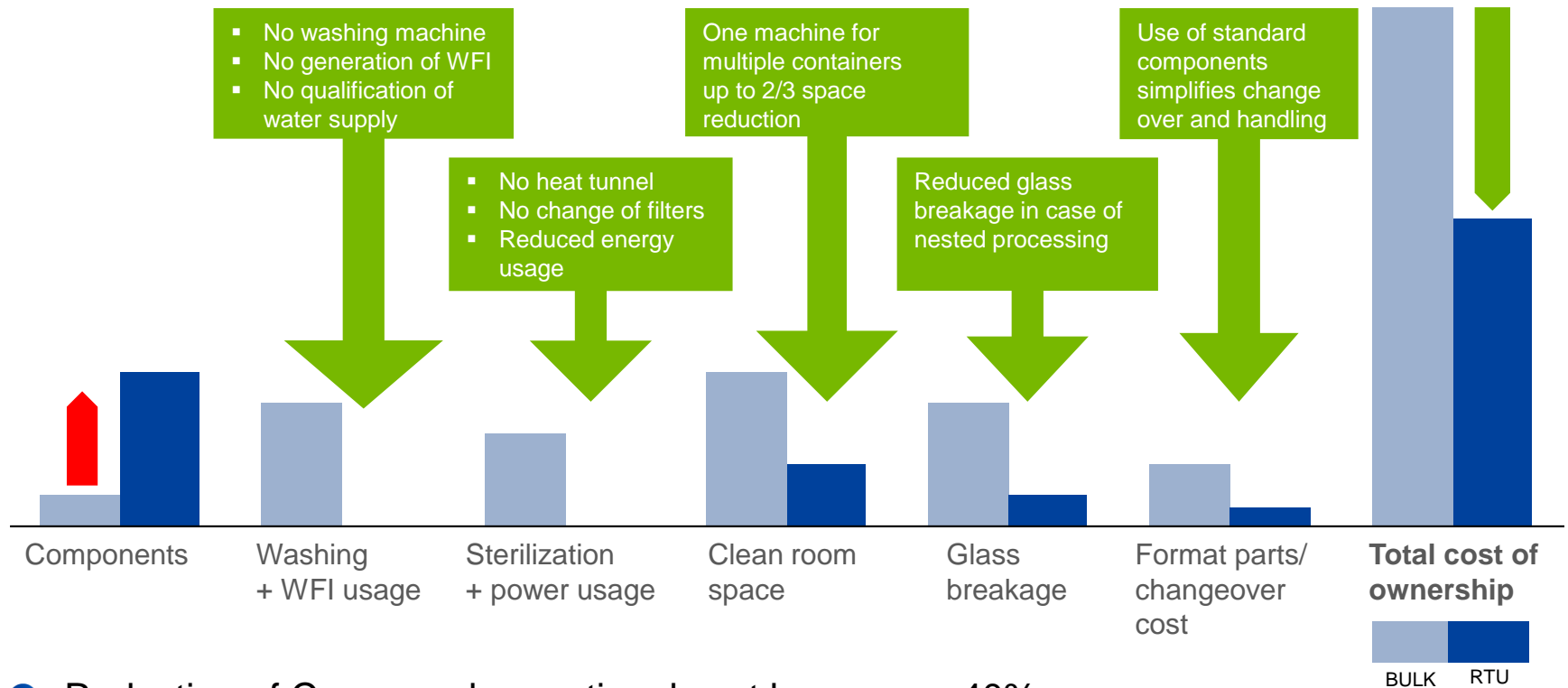
- The standard tub ensures an easy transfer into the aseptic filling suite
- No modification of transfer systems is required

Nested freeze drying without glass to glass contact and the possibility for container closure



Source: A. Raymond Life & Daikyo Seiko, Ltd.

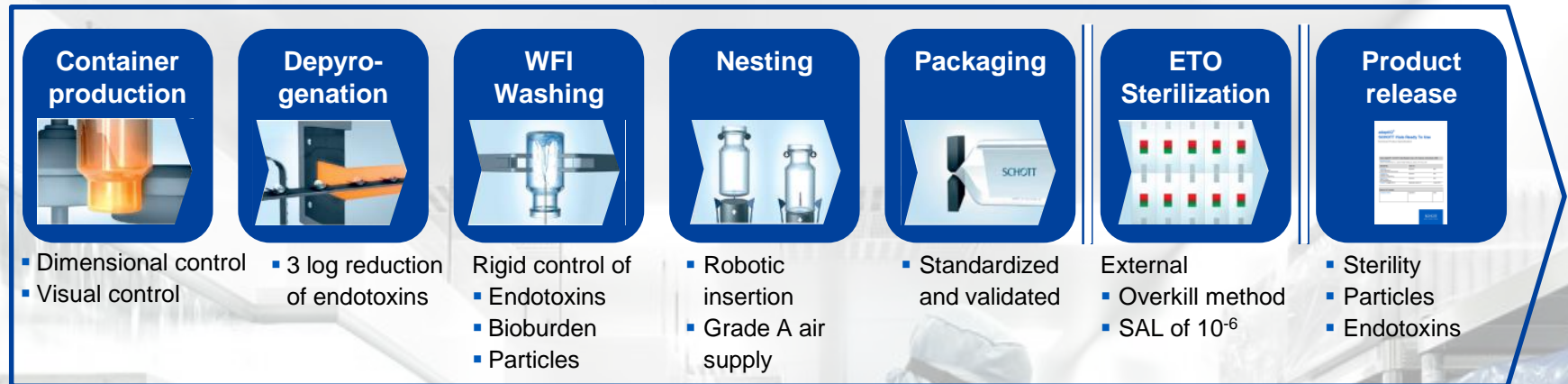
The use of RTU containers can offer a significant, customer specific TCO advantage



➤ Reduction of Capex and operational cost by approx. 40%


➤ Reduction of space required by approx. 60%

adaptiQ® ready to use vials are produced according to cGMP requirements and international standards



- ISO 9001* Quality Management Systems
- ISO 15378* Primary Packaging
- ISO 8362-1* Injection containers and accessories – Part 1: Injection vials made of glass tubing
- ISO 11135* Sterilization of health care products – Ethylene oxide
- ISO 10993-7* Biological evaluation of medical device – Part 7: Ethylene oxide sterilization residuals
- CPMP/QWP/159/01 Note for Guidance on limitation to the use of ethylene oxide in the manufacture of medical product
- USP*, Ph. Eur.*, JP* United States, European, Japanese Pharmacopoeia

Why choose adaptiQ®?

- 
- Vials are supplied clean, sterile and ready to use in a industry standard tub
 - Innovative nest design minimizes glass to glass contact
 - Lyophilization is possible without removal of vials from nest
 - Compatible with existing and novel filling equipment
 - Improved total cost of ownership position

Thank you for your attention!

