

Improving Performance and Resiliency in Your External Manufacturing Network through Supply Chain Digitalisation



Frank Binder

*Head of Global Supply
Chain Management
Stanten*



Dan Walles


*General Manager Track and
Trace/Compliance
TraceLink*

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Frank Binder, Global Head SCM, Corporate Officer



- 01** **Introducing Santen**
 - 02** **Drivers and Importance of External Manufacturing**
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Santen's CORE PRINCIPLE

Based on our CORE PRINCIPLE, Santen has been committed to helping people maintain and improve their eye health. We will continue to refine our organizational capabilities by concentrating our efforts in areas where we can demonstrate our strengths, centered on ophthalmology.

CORE
PRINCIPLE

天機に参与する

Tenki ni sanyo suru

“Exploring the secrets and mechanisms of nature in order to contribute to people’s health”*

* Santen’s original interpretation of a passage from the Zhongyong (The Doctrine of the Mean) by Confucius.

Our Commitment

As a specialized company dedicated to eye health, Santen aspires to contribute to the realization of “Happiness with Vision” by providing valuable products and services to patients, consumers, and medical professionals around the world.

WORLD VISION

The world Santen ultimately
aspires to achieve

Happiness with Vision

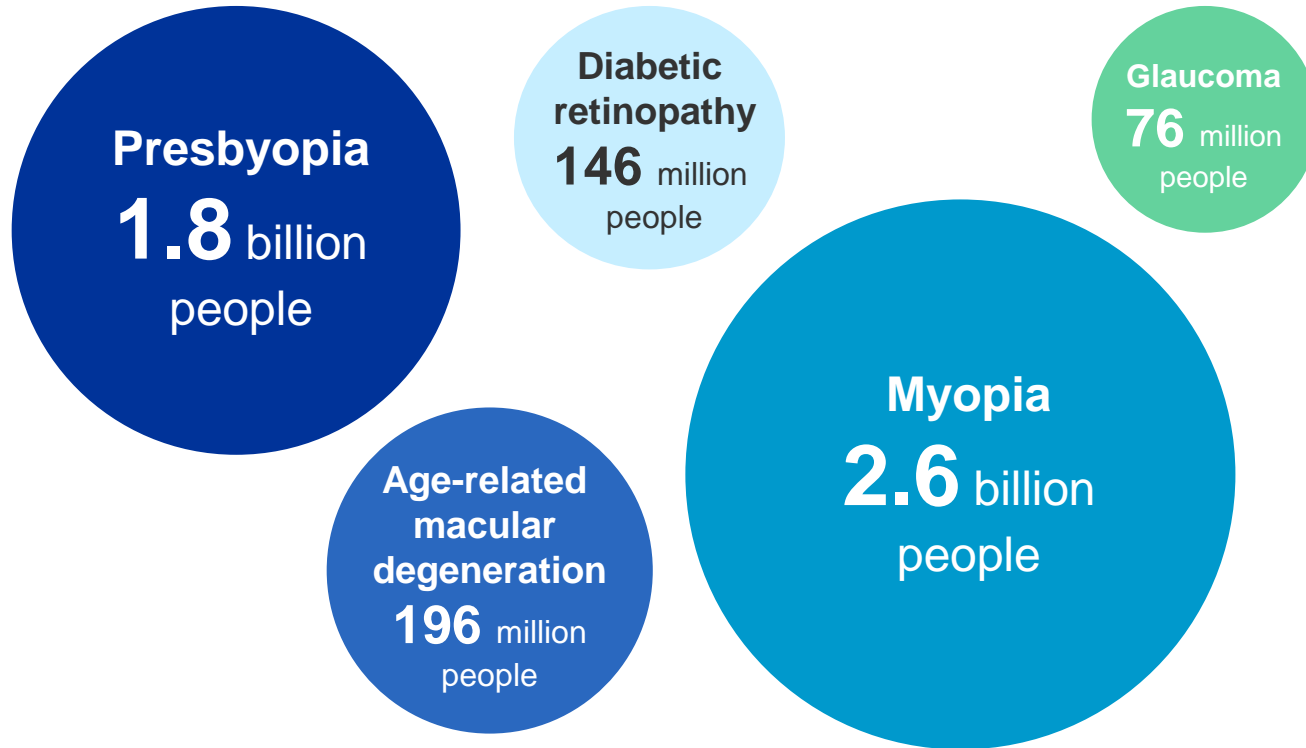
The Happiest Life for every individual,
through the Best Vision Experience



Number of Ophthalmology Patients Worldwide

Almost no one goes through life without experiencing an eye disease or condition. Eye health is also directly or indirectly linked to around half of the Sustainable Development Goals (SDGs).

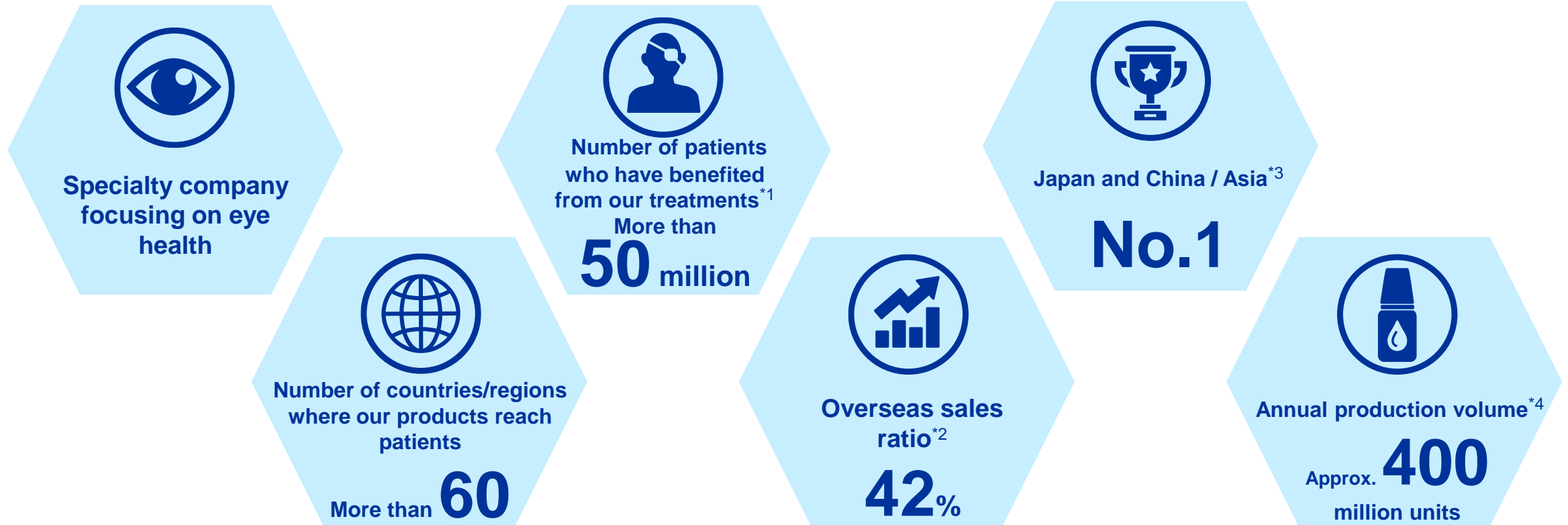
Global estimates of numbers of people affected by selected eye conditions*



* WHO: World report on vision

Santen Business Overview

Santen is engaged in the global research and development, manufacturing, and sales and marketing of pharmaceutical products in the field of eye care, supporting the eye health of more than 50 million people worldwide.

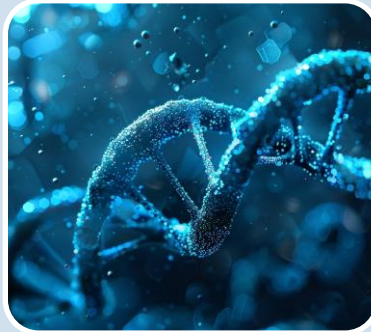


*1 As of FY2022. Estimated total no. of patients to which Santen contributed (disease areas: inflammation/allergies, cornea, glaucoma, cataracts) in FY2019 was approx. 43 million, calculated based on JMDC's estimated total no. of patients for Santen's Rx products and Santen's shipment data. *2 Based on FY2023 data. *3 Internal estimate based on external data and research. *4 5mL unit equivalent.

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Major Industry & Cross-Industry Trends Drive External Manufacturing Networks Continued Relevance & Growth

CMO are, and will remain, essential part of most Pharma companies manufacturing strategy



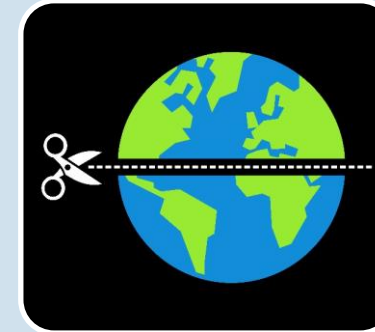
Technological Specialization by New Modalities (Biomolecules, Cell&Gene, ...), few synergies with Small Molecule sites, favor specialized CMO



Cost pressure (High investments & overhead, need high capacity utilization); **lead time** to build site; **uncertainty**, need for **flexibility**, favor CMO



Acquisition of development products in **late stage** by larger Pharma Companies – too late to change site, typically a CMO



Supply Chain Risks: Regionalization of Supply Chains, need for **Business Continuity** – owning one large site to supply globally less viable, favor CMO

Why Care About External Manufacturing Networks Performance and Resiliency?

Products are central - External Manufacturing requires high performance and resiliency



Lack of, or defective, Products impact:

Patient Health

Company

- Revenue
- Reputation
- License

Is integration with CMO adequate, given their all-important role in the Supply Chain? How can we use digitalization to improve it?

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External Manufacturing Networks are Loosely Integrated

Loose Integration



Current CMO integration: limited by boundaries

Arms length relationship not only commercially, but also operationally – performs to a certain degree, but has limitations

PharmaCo and CMO have their own systems; despite recognition that a Supply Chain goes across companies, only have limited connections

For major (“strategic”) CMO, interfaces might exist, but limited to few data flows/message types. *But – are there even “non-strategic” CMO, considering that we entrust them to make our products?*

Interaction by e-mail and Excel (not digitalized, breaking the process), augmented by review meetings – inefficient, slow, issues can be missed

Lack of granular data and real time visibility limits process optimization

KPI such as OTIF, % deviations etc are Rear View Mirror, little prognostic value, and driving actions after the fact, affecting performance and resiliency

Not satisfactory given the importance of CMO in the Pharma Supply Chain. Tighter integration brings benefits, and is possible even between companies that have diverging interests in some areas (eg, profit)

Integrating CMO and PharmaCos More Tightly Enables Transformational Change for Pharma Supply Chains

End-to-end process integration across boundaries improves performance and resiliency

Loose Integration



End-to-end
digitalization of
processes across
company boundaries

Tight Integration



Achieve Same Level of Process & Data Integration with CMO as with Own Sites, to Improve Performance

Future: Tight Integration of CMO, close collaboration

All key Processes designed end to end, across both company systems
High degree of standardization, multiple data flows in real time, keeping both company systems up-to-date

Visibility of progress and status, forward looking metrics (detect issues early and through reports, instead of through e-mails or meetings)

Eg, *Tracking and predicting* a purchase/manufacturing order through its lifecycle (eg, receipt, confirmation, firming up, materials procurement, scheduling, dispensing, bulk manufacturing, ... release, ASN) based on automated reports; automated warnings if timeline deviates

Eg, *Integration of planning*, real time plan data exchange in both directions over 24+ month horizon, capacity bottleneck prediction, PO generation at right (late) stage, avoiding unnecessary transactions (PO changes, reconfirmation etc)

Significant gains in efficiency and better on-time performance OTIF

Ability to predict issues early, enhancing resiliency (eg, KPI: # Orders off track for *future* delivery, vs OTIF of *previous* periods)

Granular data allowing process optimization across companies

Tight Integration



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A Tighter Integration is a Win-Win for PharmaCo and CMO

Both partners benefit individually and together – win-win is a must for successful integration



Efficiency increase – reduction of resource, time and cost by eliminating manual transactions, communication and operational meetings, focus on value adding interactions



Forward looking monitoring such as detection of future capacity bottlenecks, or of orders with delay risks, **ahead** of their due date



Availability of granular data to drive joint **process optimization** leading to further cost and leadtime reduction

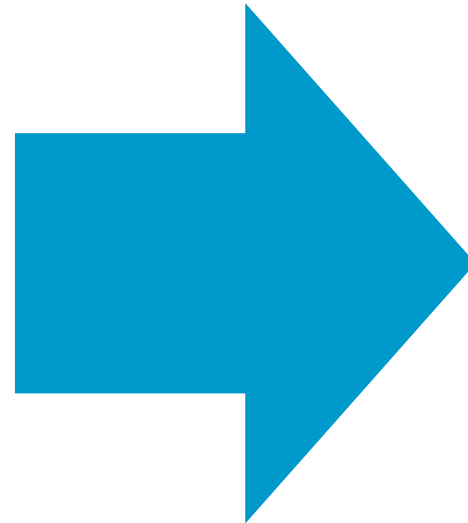
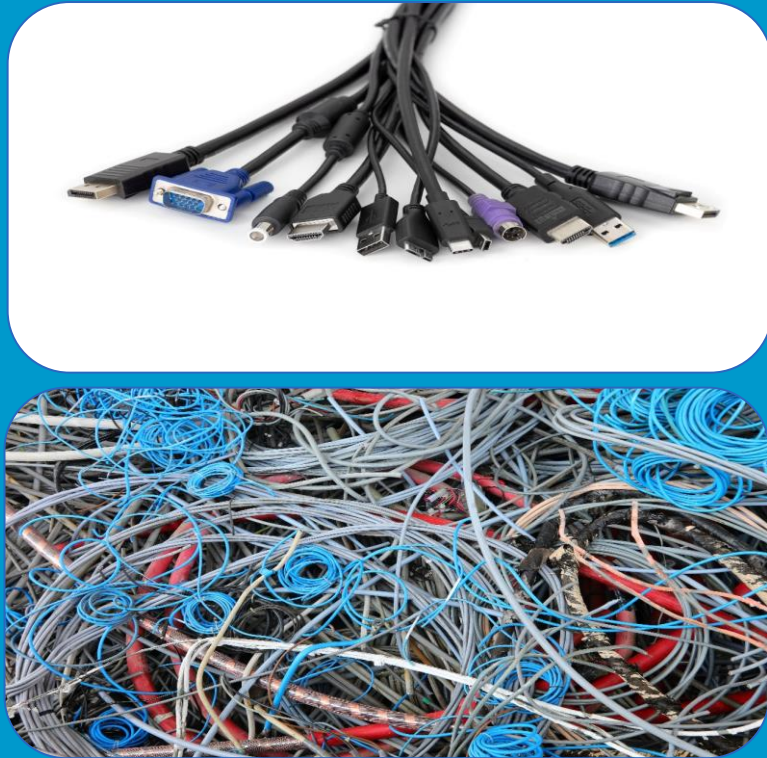


No lock-in by too high entry/exit barriers is a business prerequisite – CMO relationships are not forever

Standardization of Interfaces and Processes Help to Lower the Barrier and Drive Supply Chain Integration

Cost and effort for process design and interface building need to come down, to make a fully connected Pharma Supply Chain viable – standard connection and optimal network design

Multiple Interfaces and Links



Standardization



