



Ambu the single-use company

CFO

Michael Højgaard

June, 2019

- 1** **Ambu overview and priorities for 2019/20**
- 2** R&D as a competitive advantage and pipeline update
- 3** Commercial execution
- 4** Financial guidance
- 5** Q&A

Ambu – the Single-use company

What makes Ambu unique?



**Global pioneer
and leader of
single-use
endoscopy**



**Major market
opportunities –
100M annual
procedures**



**Market leading
R&D and
innovation within
single-use
endoscopy**



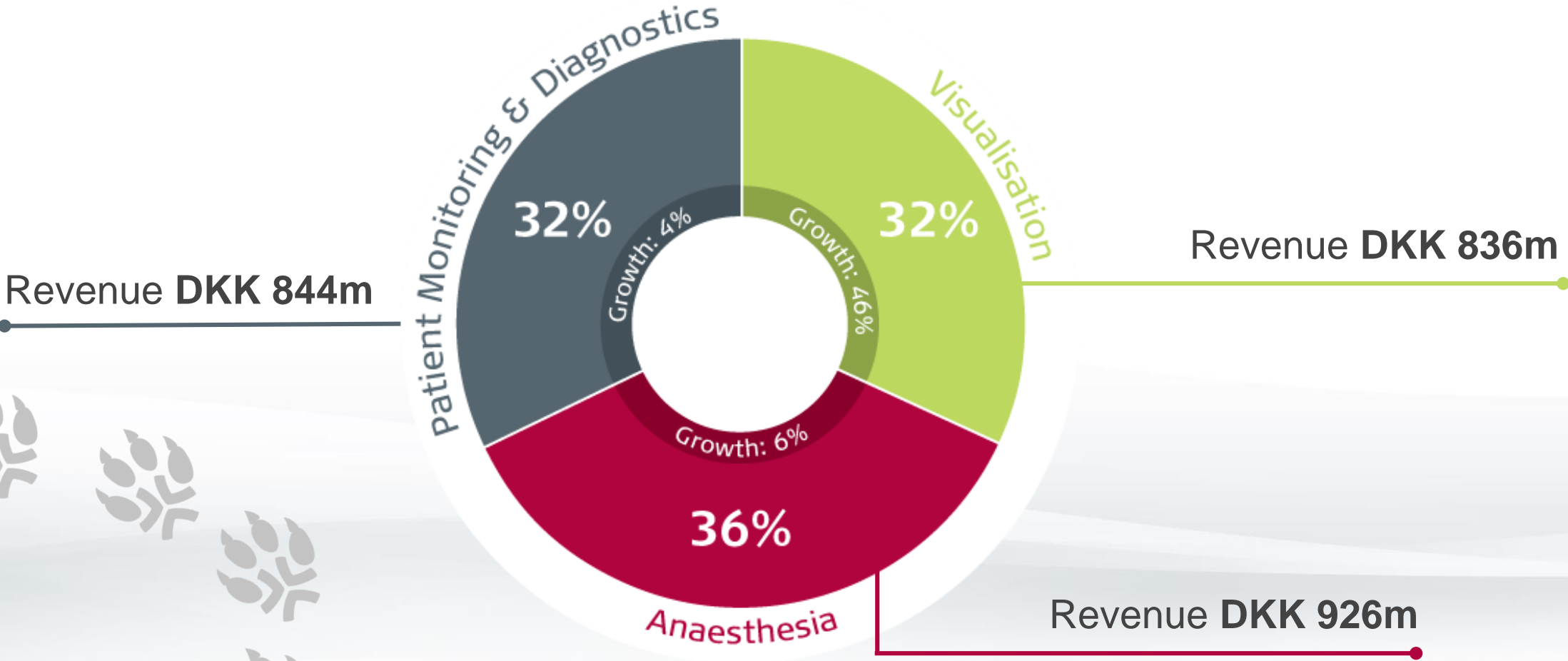
**One of the
fastest growing
companies in
MedTech**



**Robust
financial
position to fund
growth**

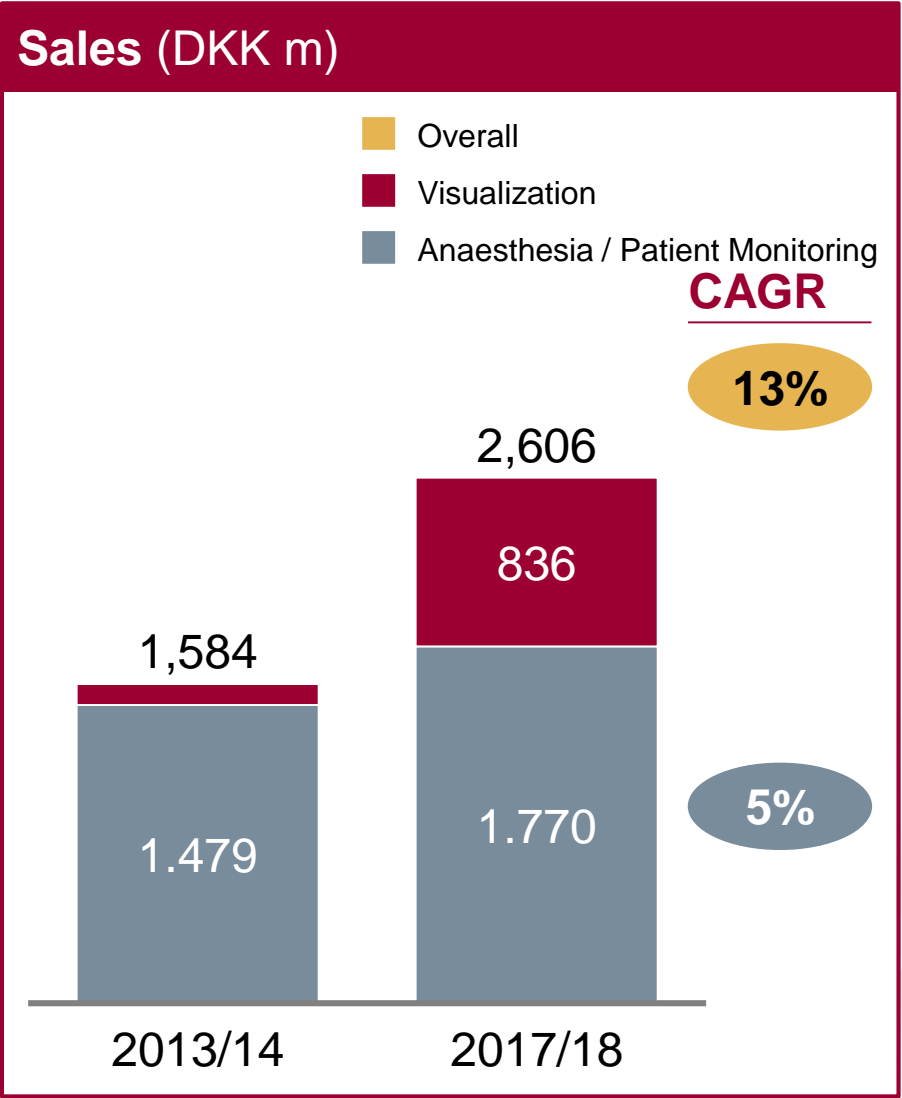
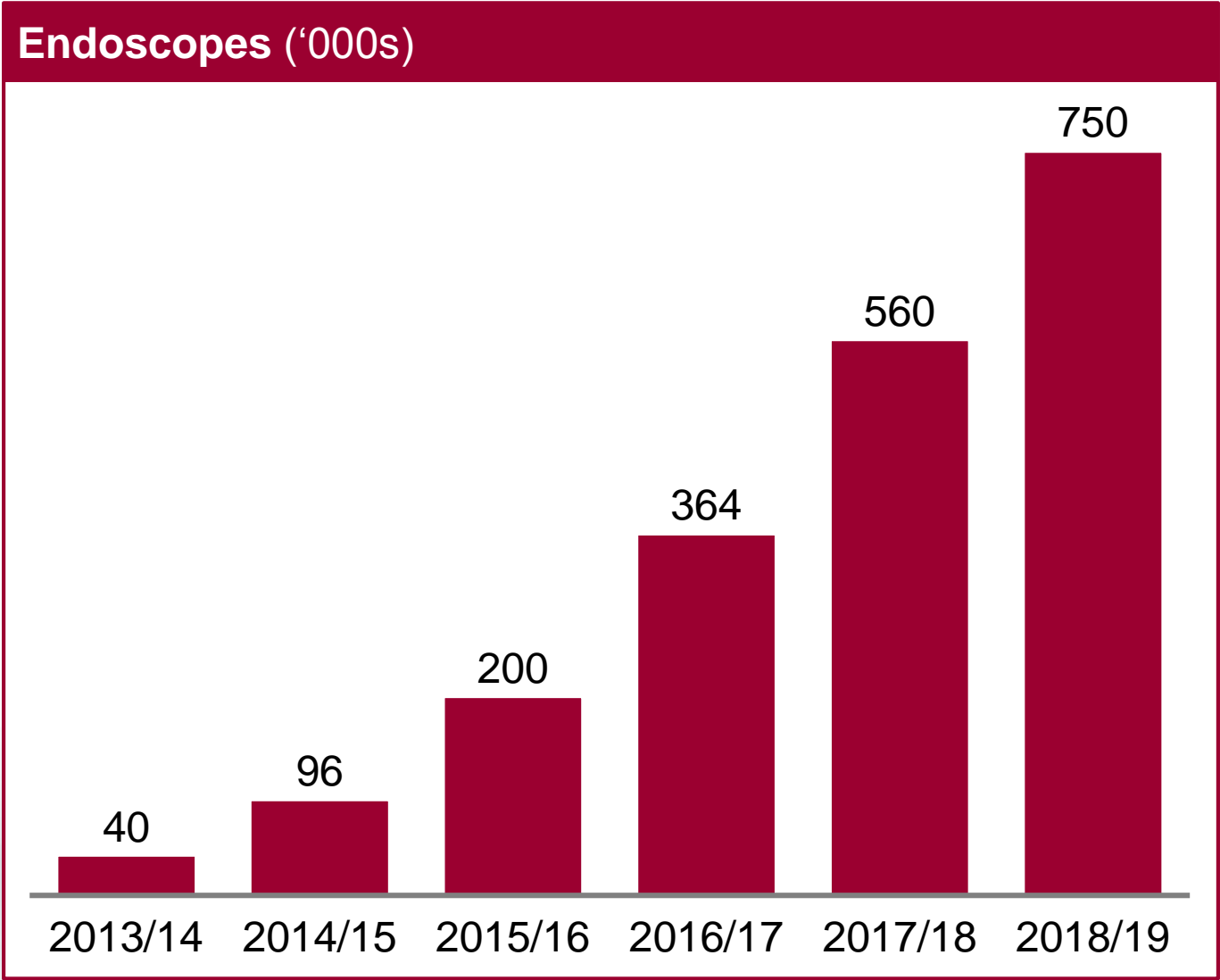
Ambu consists of three business areas

2017/18 revenue split



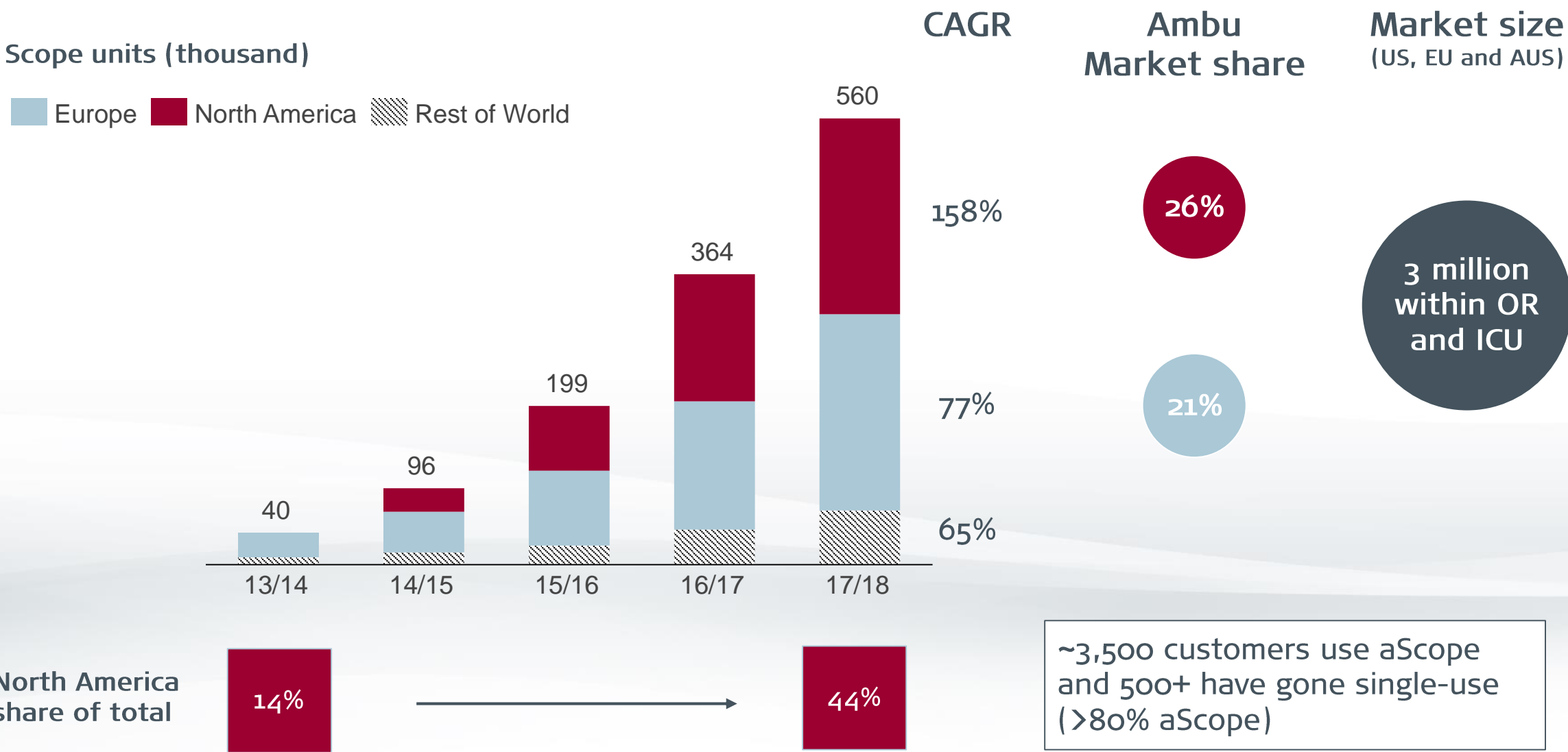
Growth rates stated in local currencies

Ambu's transformation into the Global leader of single-use endoscopy



Strong track record of new market creation through transformative innovation

The endoscope growth journey has been driven by all regions but has accelerated fastest in the US



Low cost, high quality global manufacturing setup

Noblesville, USA

Production of breathing bags, circuits and laryngeal tubes



Penang, Malaysia

Production of endoscopes. All areas Pulmonary, ENT, Urology and GI



Xiamen, China

Production of ventilation bags, face masks, laryngeal masks, PEEP valves and suction pumps, LifeKey, neck collars and training manikins



Visualization production site

1977

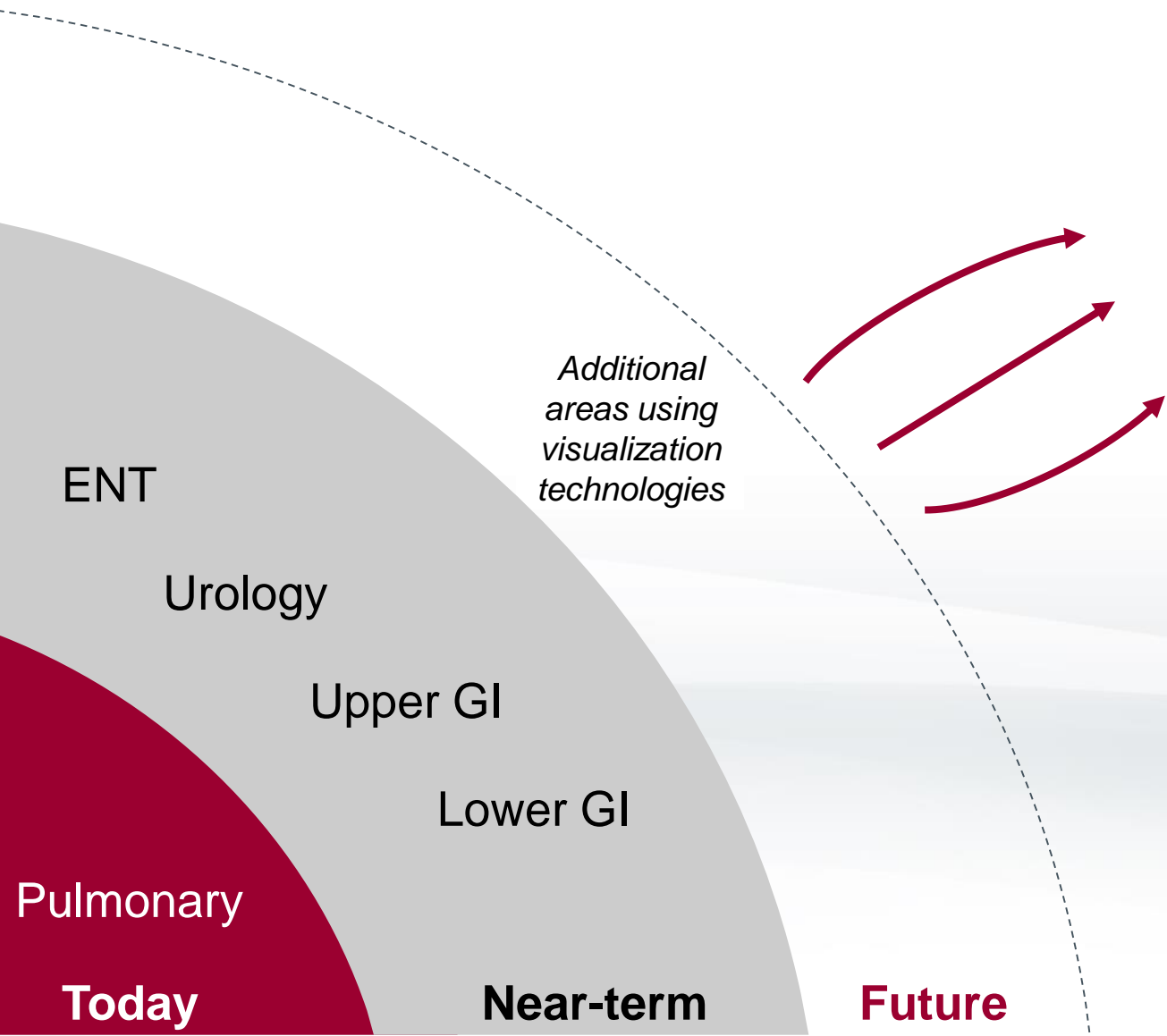
1995

2000

The manufacturing setup in combination with our best-in-class supply chain setup gives us a competitive advantage

Significant expansion potential

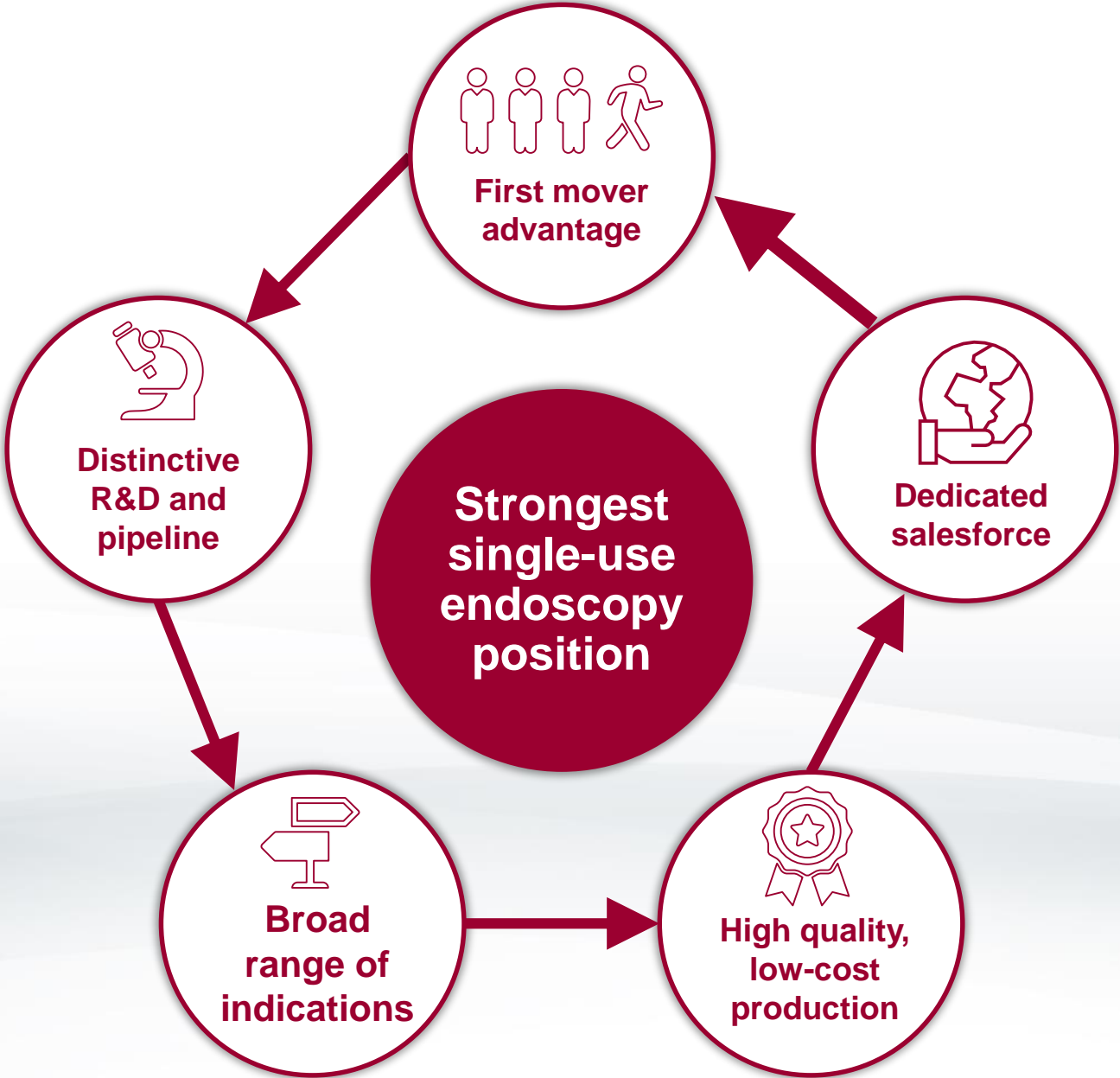
Opportunity overview



Key points:

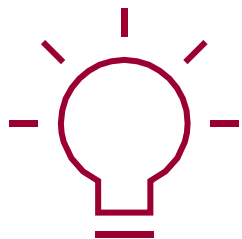
- Significantly expand near-term addressable market by 30x to 100M units
- Full offering including specialty scopes
- Expand into diagnostic and therapeutic field
- Significant future opportunities to sustain top-tier long-term growth

Ambu's key advantages in single-use endoscopy



1%-share points of near-term market potential (100M) would more than double existing visualization business

Building blocks of Ambu's 2019/20 Visualization strategy



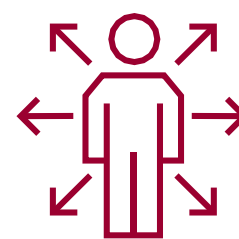
Innovation

- Further enhance R&D competitive advantage
- Execute on near-term visualization pipeline
- Develop differentiated future technologies (e.g., multi-functional image quality, AI etc)
- Pursue bolt-on M&A



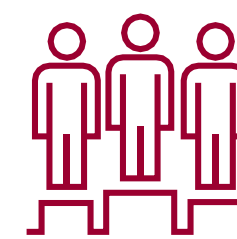
Globalization

- Purposeful expansion of direct salesforce and marketing infrastructure
- Focus on key geographies: US, Western Europe, China, Japan, Australia
- Establish selective strategic partnerships (e.g., Cook Medical)



Capability expansion

- Global operations network expansion to enable sustained growth and maintain low cost footprint
- Enhance critical commercial and enabling capabilities (e.g., healthcare economics, GPO contracting, clinical evidence)



Talent and Culture

- Strengthening our winning spirit and culture while rapidly expanding the organization
- Expand critical talent:
 - US and key geographies for commercial organization
 - Innovation (Malaysia / Germany/ Denmark)

1

Ambu overview and priorities for 2019/20

2

R&D as a competitive advantage and pipeline update

3

Commercial execution

4

Financial guidance

5

Q&A

Dedicated single-use visualization R&D at Ambu



R&D centers

5

with access to the best global visualization talent

~160

Dedicated FTEs and growing

5

Exclusive strategic technology partners

provide further access to leading technology

12+

Development capacity to launch new products within the next 3 years

Key technology tracks

- Image quality (sensor, light, image processing, tip design, lenses, AI, etc)
- Display unit (Firmware, GUI SW, EMR integration, electrical safety)
- Mechanical performance (bending, working channel, robustness, etc)

Significant advantages in visualization core competencies

Camera technology

- Sensor technology, cables, low cost HD, +1MB sensor, lenses

Tip design

- Small size tip, Large size tip with working channels
- 2K tip, 120 & 140 FOV, environmental encapsulation

Light

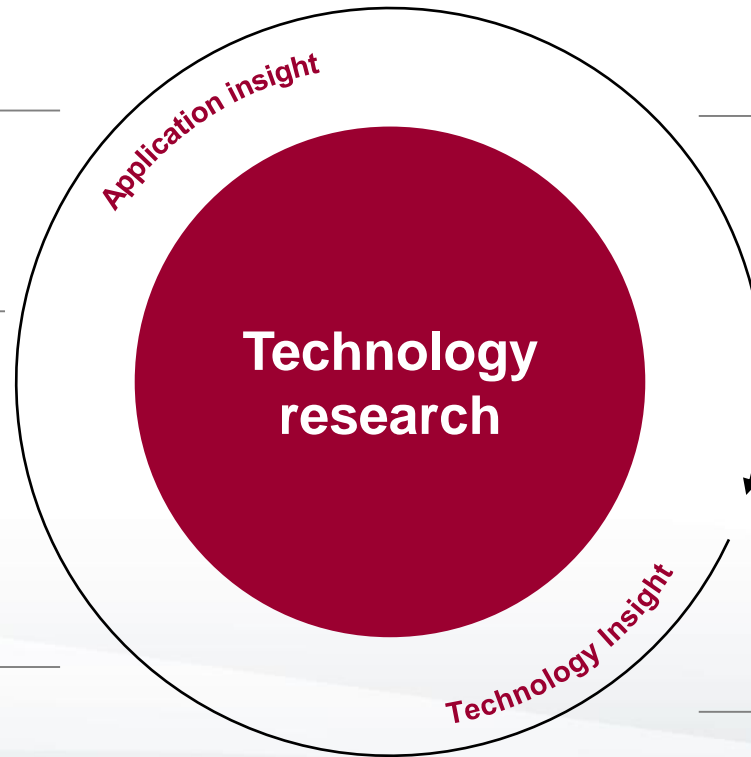
- Light guides, fiber light, blue/green light, LED color, Anatomical light, Blue light

Image pipeline

- NBI alternatives, Vascular enhancement (EVA), Image enhancements,

Monitor technology

- Portable screens, WIFI, Full HD, IT integration,
- Touch panel, Digital video out for std external monitors (aBox)



User insights process

- Ambu DNA to work agile and in an iterative relation to specific user groups

FPGA/GPU/CPU implementation

- FPGA programming, OS, Linux
- Embedded and application SW

Advanced Image processing

- Network design, Decision support, Tool navigation
- DL learning, AI Lesion detection

Bending section and handle design

- Mechanical simulation models, working channels
- 2- & 4 way bending, Brakes, ergonomic design

Electrical patient safety

- Safety certification (UL & EMC), patient isolation

As the global pioneer of single-use technology, Ambu has a robust, and difficult to replicate, visualization technology expertise

Our innovation aspiration for the next 3-5 years



Deliver **industry-best visualization** performance (across all scope types)



Develop full **single use portfolio offering** across all major applications / specialties



Develop **next-generation platforms** across all technology tracks (display unit, etc)



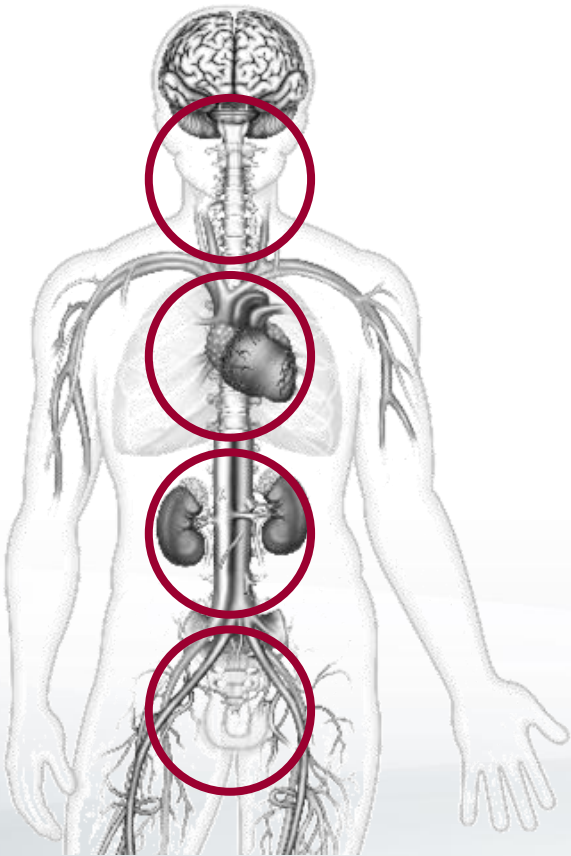
Build full **Artificial Intelligence diagnostic capabilities**



Invest in future **critical enablers** (e.g., healthcare economics, evidence generation)

Establish single-use endoscopy as the standard of care

Current visualization portfolio



aView™ 2 Advance	1	Pulmonary	5m
	2	ENT	11m
	3	Urology	8m
aBox™ Console	4	Colonoscopy	50m
	5	Gastroscopy	20m
	6	Duodeno-scopy	2m

Commercially launched products

- aScope™ 4 Broncho
 - VivaSight
 - BronchoSampler™
-
- Slim (US launch May 2019)
 - Intervention (EU and Australia)

- Isiris

A next-generation monitor platform technology that allows Full-HD-quality



Two offerings that will cover our full portfolio

aView™ 2 Advance



Pulmonary, ENT, Urology

aBox™



Development of a console for the aScope GI portfolio, that will enable connection to current monitors and EMR systems in hospitals

- Compatible with both existing and future scopes
- The technology will enable connection to EMR systems in hospitals and make 1920x1080 pixel resolution available
- Significantly enhanced image quality – best in class for single-use bronchoscopes
- Ambu-developed NBI alternatives such as Vascular enhancement (EVA™)

Q3, 2019/20

Q2, 2020/21



aView™ 2 Advance



aBox™

Monitor platform that will significant enhance our entire single-use portfolio

1 Pulmonary: Expanding from a position of strength – New aScope™ 5

Market opportunity: Incremental 2M annual procedures with aScope™ 5 (current market 3M)



- All single use benefits (e.g., no cross-contamination, hospital reprocessing, lower cost, always available for physicians, etc.)
- New aView™ 2 Advance will provide a significant better image quality for the aScope™ 4
- aScope™ 5 in development
 - HD camera chip and optimized for diagnostic use
 - Compatible with existing tools
 - aScope 5 and the aView 2 advance will open up for incremental 2M procedures within the bronch suite

Q3, 2019/20

Q4, 2020/21



aView™ 2 advance monitor

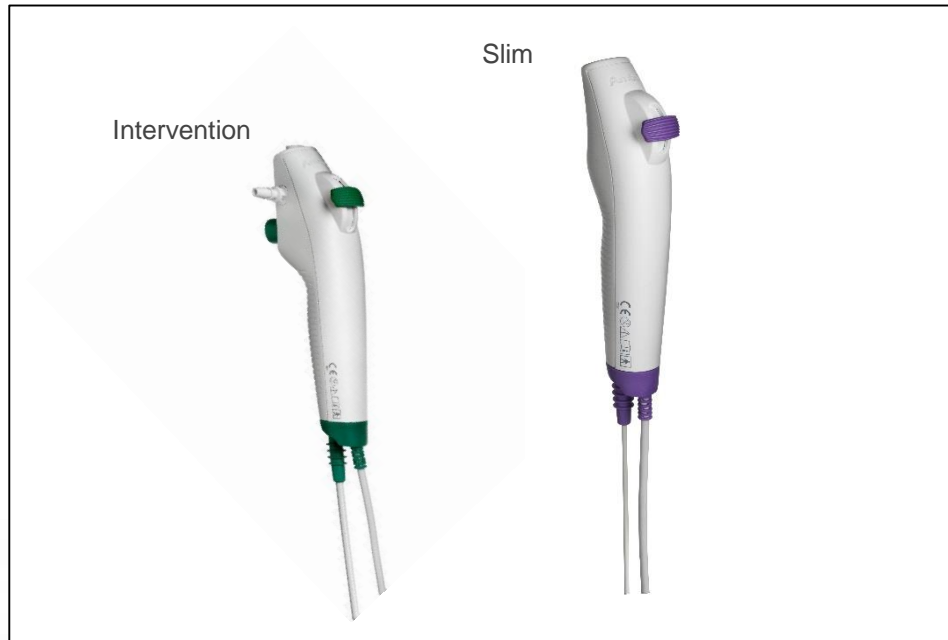


aScope™ 5

~20% and growing market share with next-gen pipeline well underway

2 ENT: Fully focused on commercial launch

Market opportunity: 11m procedures



- FDA approval of the Slim scope in May 2019
- The slim version targets 95% of the ENT market
- All single use benefits (e.g., no hospital reprocessing, availability etc.)
- Strong early traction with Slim offering in hospital segment (initial focus area)
- First Intervention study released with positive feedback¹ – anticipate approval Summer 2019

Q1, 2018/19

Q2, 2018/19

Q3, 2018/19

Q4, 2018/19



Intervention launch in EU & AU



Slim launch in EU & AU



Slim launch in US



Intervention launch in US

Significant near-term opportunity in a 11 million market

¹ * Becker et al (2019) - First experiences with a new flexible single-use rhino-laryngoscope with working channel - a preliminary study – [Link](#)

aScope™ 4 RhinoLaryngo Intervention is currently not for sale in the U.S.

③ Urology: Developing a full portfolio - ureterscope is on the product pipeline

Market opportunity: 8m procedures (~ 6m Cystoscopy and ~ 2m Ureteroscopy)

Cystoscope



- Cystoscope (to evaluate urethra and bladder) is a routine use diagnostic scope
- To complete our urology portfolio, we will be introducing a ureterscope to target kidney-procedures
- Ureteroscope (for ureters and kidneys) will have interventional capabilities (e.g., stone removal)
- The combination of a single-use cystoscope and ureterscope is ideal as physicians in many cases use both on the same patient
- Both urology scopes will be integrated with our aView™ 2 Advance

US launch

Q2, 2019/20

Full global launch

Q1, 2020/21

2021/22



Cystoscope



Cystoscope



Ureteroscope

Significant urology expansion beyond current Isiris offering

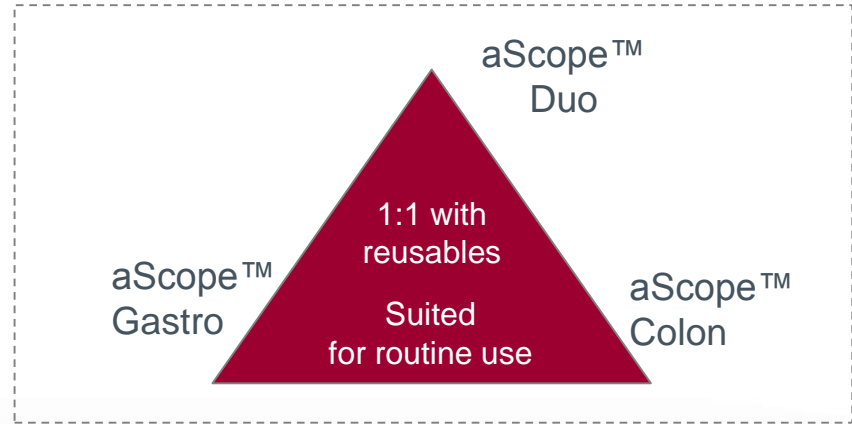
4 + 5 Entering GI accelerated by combining Ambu and Invendo technologies

What we got from the Invendo acquisition

- A technology platform for GI visualization
- An innovative organization with deep knowledge of GI
- An almost FDA-approved colonoscope (SC210) ready for market testing

The two tracks we started to enter in GI

A Development of a basic line of GI aScopes



B Evaluation of the SC210

SC210

- Novel control / steering
- Larger diameter and different bending section
- Unique properties on flexibility and stiffness

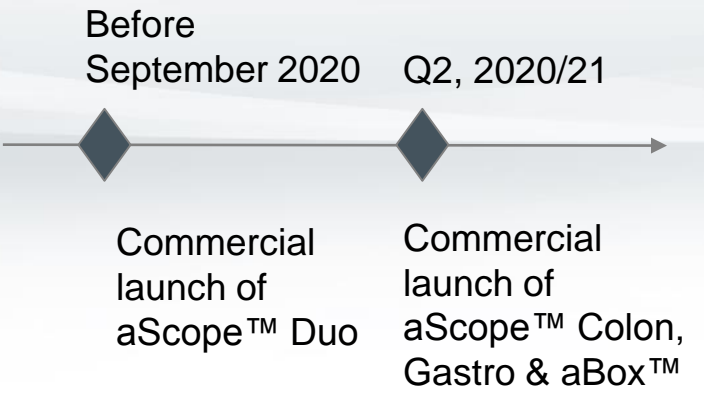
aScope™ colon

- Classic** wheel & wire control
- Standard** diameter and insertion tube
- Similar** feel to reusable scopes

Conclusion

We will prioritize aScope™ Colon and discontinue SC210

Timeline



6 Duodenoscope: Ambu's first entry into GI

Market opportunity: 2M annual procedures (700K in US)

DDW showcase



- All single use benefits (e.g., no cross-contamination, hospital reprocessing, etc.)
- Rapid learning curve / fast adoption expected
- Lightweight to optimize usability
- Cook, our US partner, is a strong GI player, especially in ERCP tools

US launch
Before September 2020

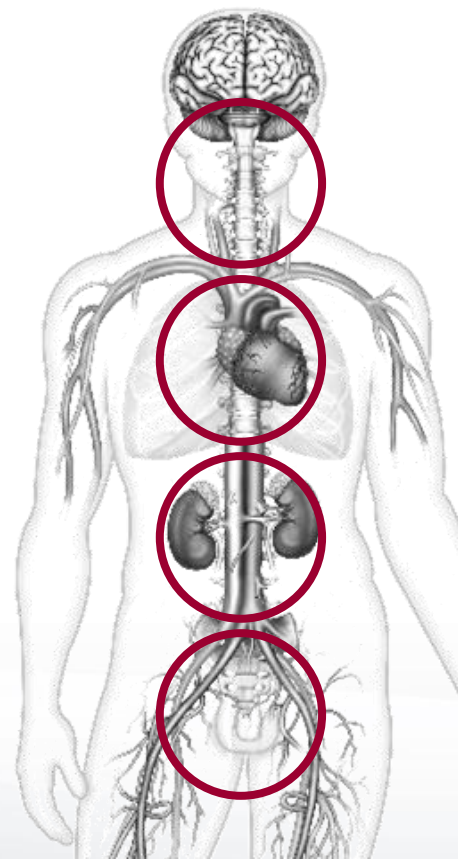
◇ aScope™ Duo

Cook partnership key to rapidly penetrate ERCP opportunity and establish GI foothold

Near-term visualization portfolio

Market opportunity
(annual procedures)

Commercially available



aView 2 Advance

①

Pulmonary

5m

aScope™ 5
aScope™ 4
BronchoSampler™

Q4, 2020/21



②

ENT

11m

Intervention



(EU and AUS)

Slim



③

Urology

8m

Isiris
Cystoscope
Ureteroscope

Q2, 2019/20
2021/22



aBox™ Console

④

Colonoscopy

50m

aScope™ Colonoscope

Q2, 2020/21

⑤

Gastroscopy

20m

aScope™ Gastroscope

Q2, 2020/21

⑥

Duodenoscopy

2m

aScope™ Duodenoscope

Before Sep. 2020

Launch plan

**Significant
portfolio expansion
over the next 2
years**

- More than 6 new scopes
- 2 new display units
- Innovation modular and scalable
- Increasing cadence of innovation going forward

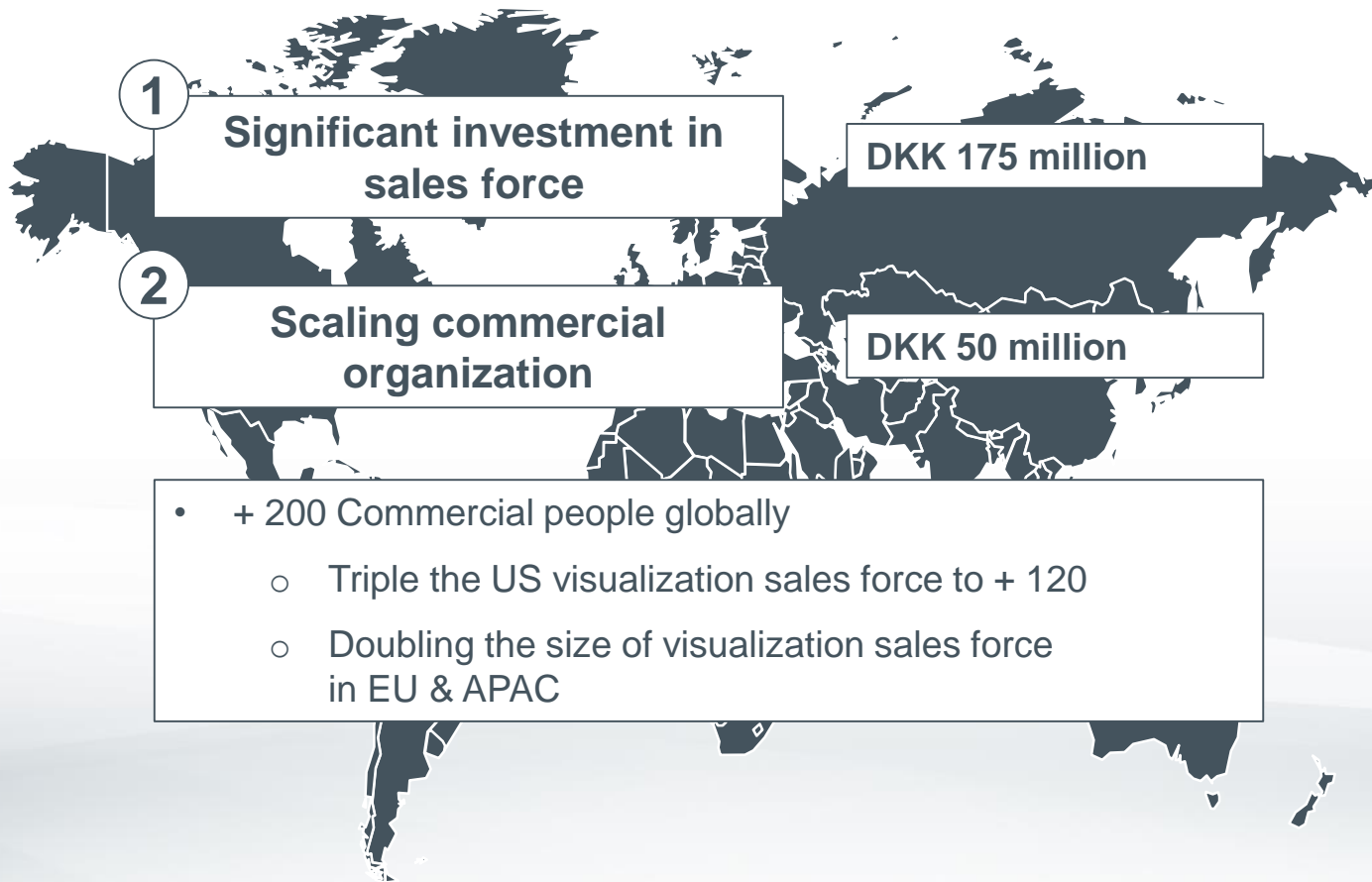
Developing a best-in-class single use endoscopy portfolio – significant breadth and depth

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We will invest DKK 225 million in 2019/20 to maximize the growth potential after 2020



Accelerating commercial infrastructure in 2019/20



Key commercial focus areas to maximize pipeline value and maintain first mover advantage:

- Focus markets: US, Western Europe, APAC (China, Japan, Australia)
 - US market is key to sustain top-tier near-term growth
 - Significant ROW opportunity in focus markets
- Tailored GTM approach for each market
- Enhanced critical commercial capabilities

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We expect 16-19% topline growth in 2019/20

Financial outlook for 2018/19 and 2019/20

Financial outlook	Financial year 2018/19	Financial year 2019/20
Endoscopes sold (unit)	~750k	~1 million
Organic growth	14-15%	16-19%
EBIT margin	~22%	+20%
Free cash flow (excluding M&A)	DKK ~375	9% of revenue

What makes Ambu unique

- ✓ Pioneering single-use disposable endoscopy
- ✓ Major market opportunities to increase penetration worldwide
- ✓ Market leading R&D and innovation
- ✓ Top-tier growth profile
- ✓ Robust financial position



Ambu
Ideas that work for life

Ambu – the single-use company