



sequanamedical



Innovators in the management
of **fluid overload**

liver disease – cancer – heart failure

Investor presentation – July 2019

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Regulatory disclaimers:

- The **alfapump**[®] has not yet received regulatory approval in the US and Canada. Any statement in this presentation about safety and efficacy of the **alfapump** does not apply to the US and Canada because the device is currently undergoing clinical investigation in these territories.
- Sequana Medical's proprietary DSR therapy is under development and Sequana Medical is developing **alfapump** DSR (Direct Sodium Removal) to deliver a convenient and fully implanted system for DSR therapy. DSR therapy is still in development and it should be noted that any statements in this presentation regarding safety and efficacy arise from pre-clinical and clinical studies and ongoing clinical investigations which have yet to be completed. There is no link between DSR therapy and ongoing investigations with the **alfapump** system in Europe, the US and Canada.

Company Overview

- Founded in 2006
- Headquarters in Gent, Belgium
- 37 employees
- IPO Euronext Brussels Feb '19: SEQUA
- **alfapump**
 - Europe: focused commercialization
 - US: Breakthrough Device status, pivotal study about to start
- **alfapump DSR**
 - in clinical development for volume overload due to heart failure



alfapump[®] platform

Unique capabilities to manage fluid imbalance



Settings wirelessly adjusted



Fully implantable



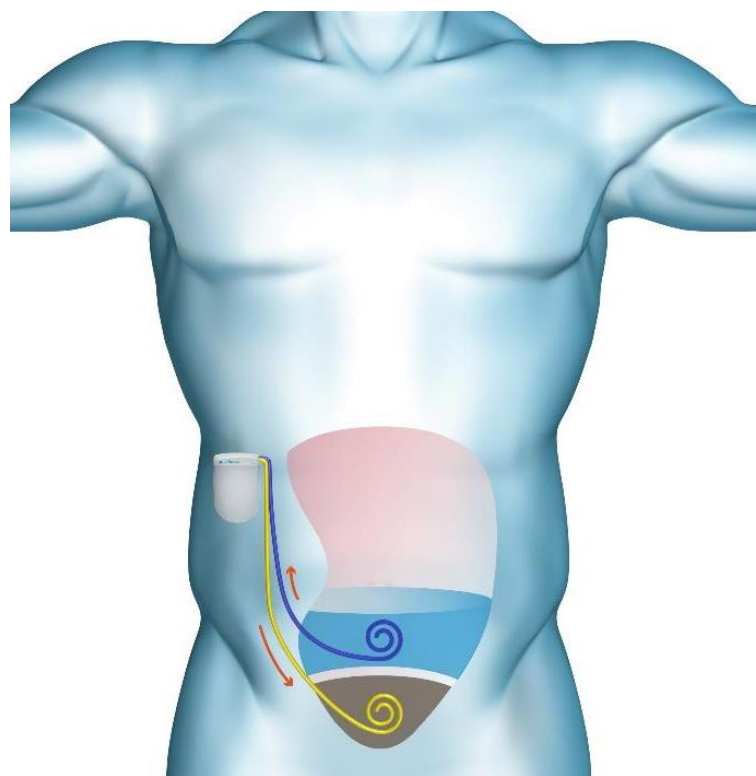
Wireless battery charging



Moves up to 4 litres / day



No significant heating during charging and operation



Remote data monitoring



Long-term implantation & catheter patency



Easy implantation



Automatic operation




Virtually non-clogging

Strong IP barriers through extensive patent portfolio & know-how


Commercial stage

Two products – one platform




alfapump[®]

proven step change in liver refractory ascites and malignant ascites;
over 700 devices implanted



alfapump platform



alfapump[®] DSR

breakthrough approach to fluid overload in heart failure

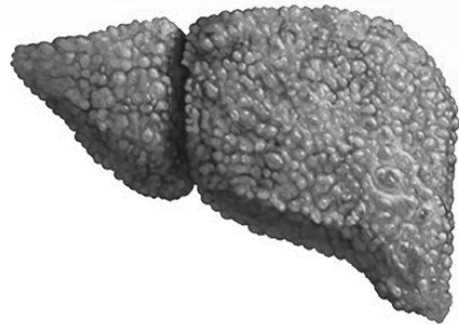
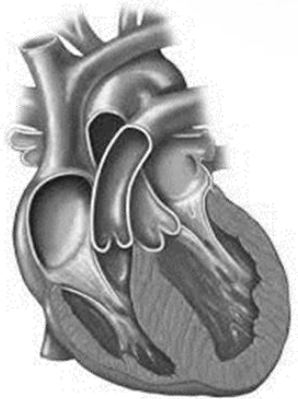


(*) announced since IPO



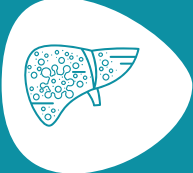
focus.

Liver disease
and heart failure – large
and growing markets



Three platforms for growth


Balancing risk and reward



North American Liver & Cancer

~151K
refractory ascites patients due to alcoholic liver disease and NASH within next 10-20y⁽¹⁾

~16K
Malignant ascites patients/y⁽²⁾



Heart Failure

US Market Information⁽³⁾:

~1 Million
hospitalisations/y due to volume overload by 2026⁽³⁾

\$13 Billion
hospitalization costs; 90% of admissions due to volume overload



Europe Liver & Cancer

~89K
refractory ascites patients due to alcoholic liver disease and NASH within next 10-20y⁽¹⁾

~18K
malignant ascites patients/y⁽²⁾

Source 1: Management estimate that is inclusive of estimated growth in prevalence of NASH for the US and EU5 based on GlobalData Epidemiology Forecast to 2026. Assumes 1/3 of existing market is due to hepatitis and will become negligible within the next 10 to 20 years.
 Source 2: Management estimate based on WHO cancer incidence rates (2018) and Ayantunde & S. L. Parsons. Annals of Oncology 2007.
 Source 3: GlobalData Heart Failure Epidemiology Forecast to 2026; Costanzo et al. (2007). Kiglore et al (2017)



alfapump®

Proven step change in the management of liver refractory ascites and malignant ascites

Liver cirrhosis and refractory ascites

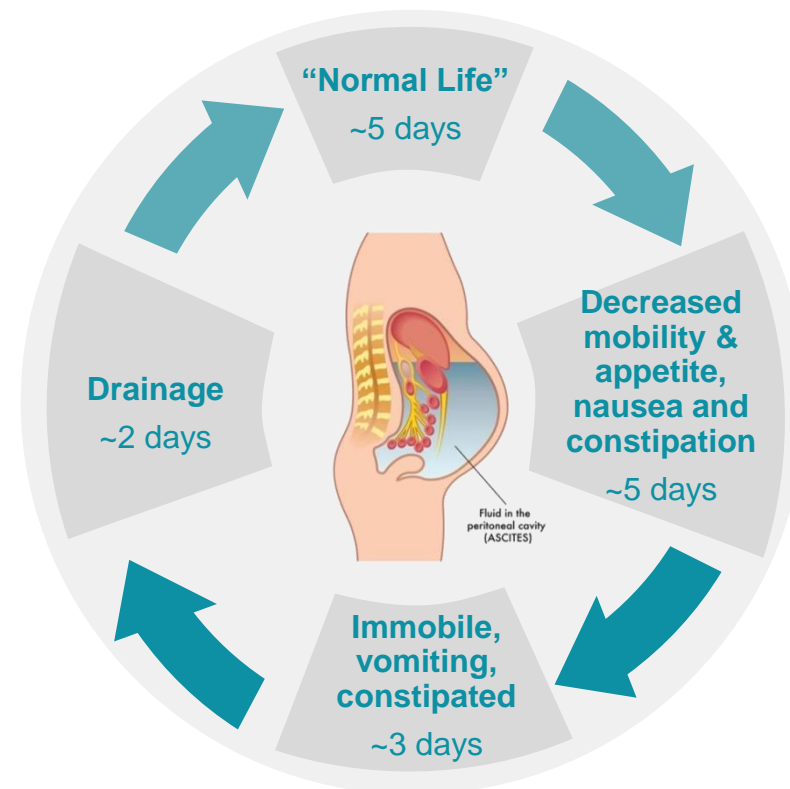
A key complication of liver cirrhosis, with a dramatic impact on quality of life

- 


Viral infections
(Hepatitis B & C)
- 

Alcoholic Liver Disease
- 


Non-Alcoholic Steatohepatitis (NASH)




Typical patient life⁽⁴⁾

- 

10% NASH (1)

Liver cirrhosis
- 

50% (2)

Ascites
- 

5-10% (3)

Refractory Ascites

Note : Prevalence of NASH in US is expected to increase by 63% between 2015-2030; Estes et al., 2018

Source 1 Management estimate in US based on Estes et al; GlobalData Nash Epidemiology Forecast to 2026; Noureddin et al., 2013

Source 2: Runyon 2009.

Source 3: Ginès et al., NEJM 2004.

Source 4: Presentation of Dr. Rajiv Jalan at EASL in 2018, Large Volume Paracentesis (LVP) treatment cycle for refractory ascites

Cancer and malignant ascites

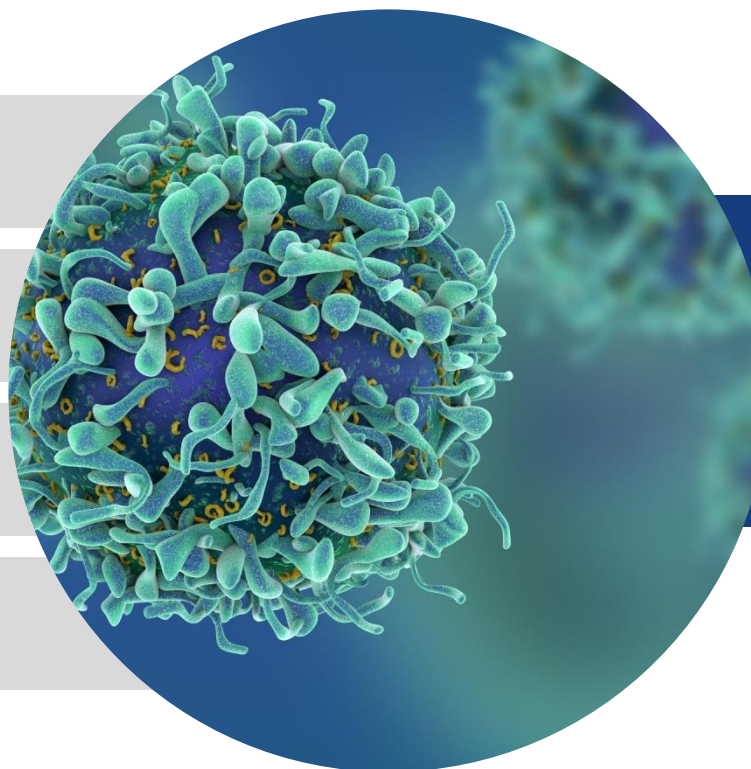
Severe complication of late-stage cancers

Fluid accumulation in the abdomen due to **drainage of lymph system**

Breast and ovarian cancer have longest survival with ascites⁽¹⁾

Severe impact on **quality of life**

Reduces ability to undergo **anti-cancer treatment**



Clear unmet need for improving Quality of Life and the ability to increase cancer treatment intensity

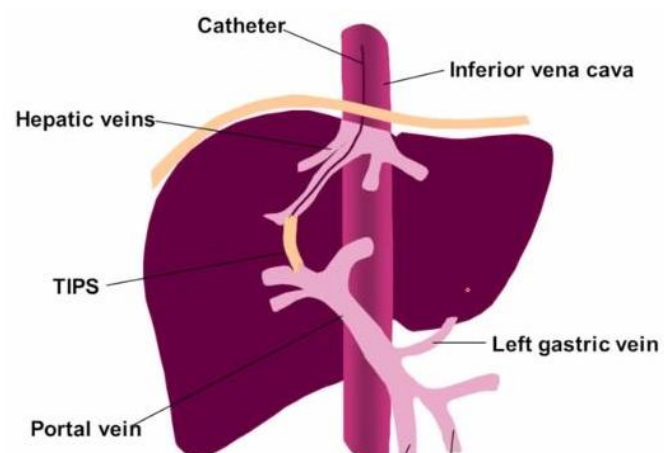
Severe limitations of existing therapies

Large Volume Paracentesis (“drainage”)



Dramatically reduces quality of life

Transjugular Intrahepatic Portosystemic Shunt (TIPS)



Increases risk of hepatic encephalopathy above age of 65 (typical age of NASH ascites patients)

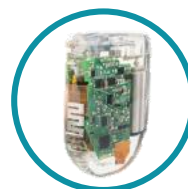
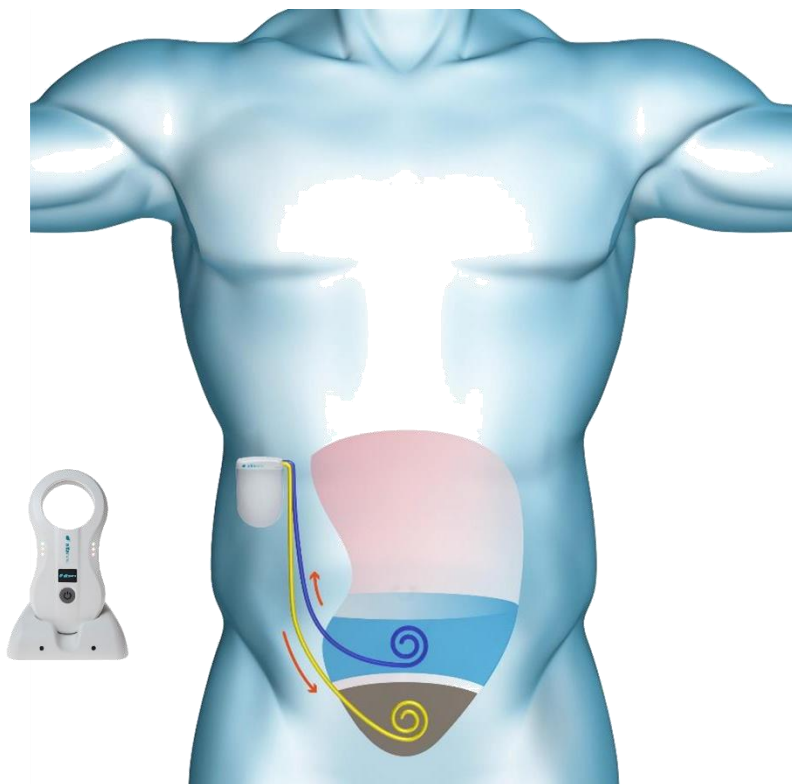
Liver transplant



Limited availability and high costs

alfapump®

Fully implanted, automatic, wireless charged system for the long-term treatment of refractory liver ascites and malignant ascites



alfapump®



Smart Charger



Programmer



Approved in Europe and Breakthrough Status in the US⁽¹⁾

Over 700 implants and 400 years of patient experience



Current reimbursement:

- ✓ **Switzerland:** DRG
- ✓ **Germany:** DRG (NUB program⁽²⁾)
- ✓ **UK:** NICE guidance “use with special arrangements” – local reimbursement
- ✓ **Belgium, Netherlands, Denmark, Israel:** special / hospital innovation budget

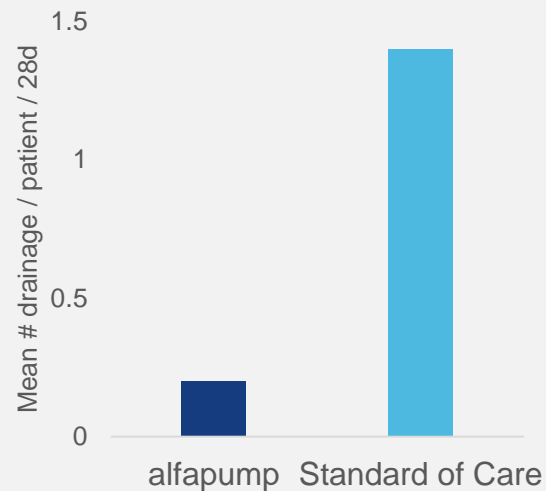
Note 1: *alfapump* is CE marked in Europe and is undergoing IDE clinical investigation in US and Canada

Note 2 NUB: “Neue Untersuchungs- und Behandlungsmethode” = temporary add-on payment to DRG for new diagnostic and treatment methods

Key findings from alfapump® clinical studies



Drastically reduced need for drainage

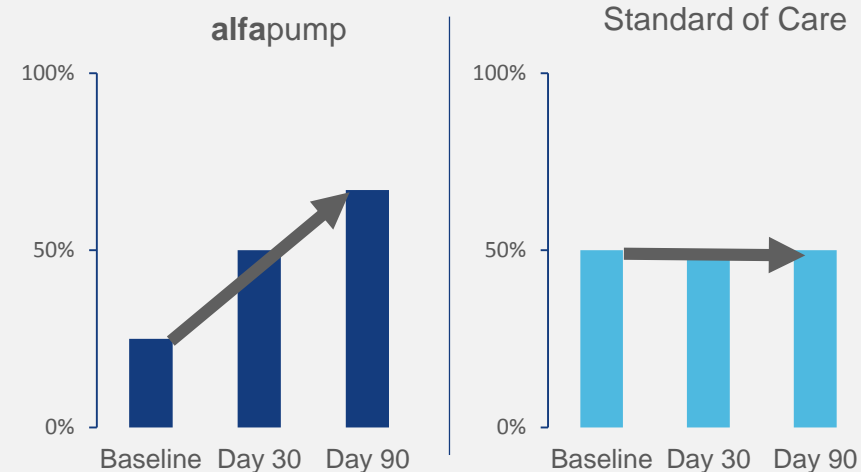


Results RCT study



Improved nutrition

% patients adequately nourished



Results RCT study



Improved quality of life

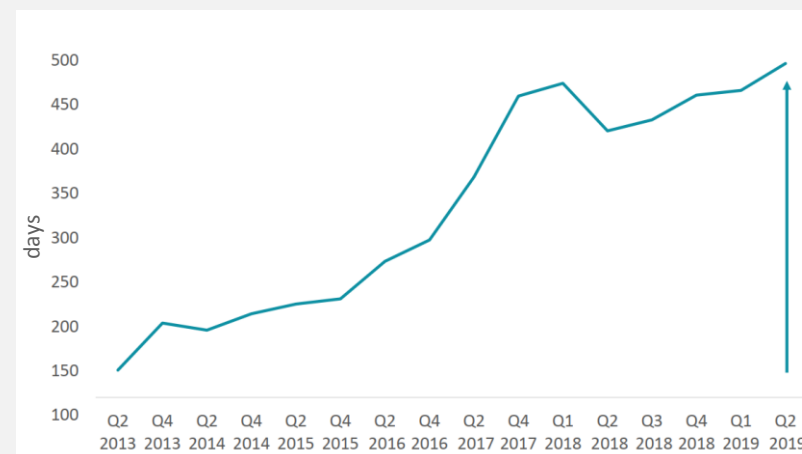


Results RCT study

* p<0.05



Clear increase in clinical outcomes



Sequana Medical data

Commencing North American Pivotal Study

As well as additional studies in Europe

- **POSEIDON – pivotal study in US & Canada**
 - Unconditional IDE approval from FDA to start study
 - Up to **50 patients** implanted with the **alfapump** in study cohort
 - Primary endpoint at **9 months after enrollment**:
 - ⇒ proportion of patients with a 50% reduction in average number of paracentesis per month post-implant vs pre-implant
 - First patient in expected in H2 2019
 - Planned US launch **H1 2022**

- **Building clinical evidence:**
 - Prospective malignant ascites study, TOPMOST registry, ARIA pump in France

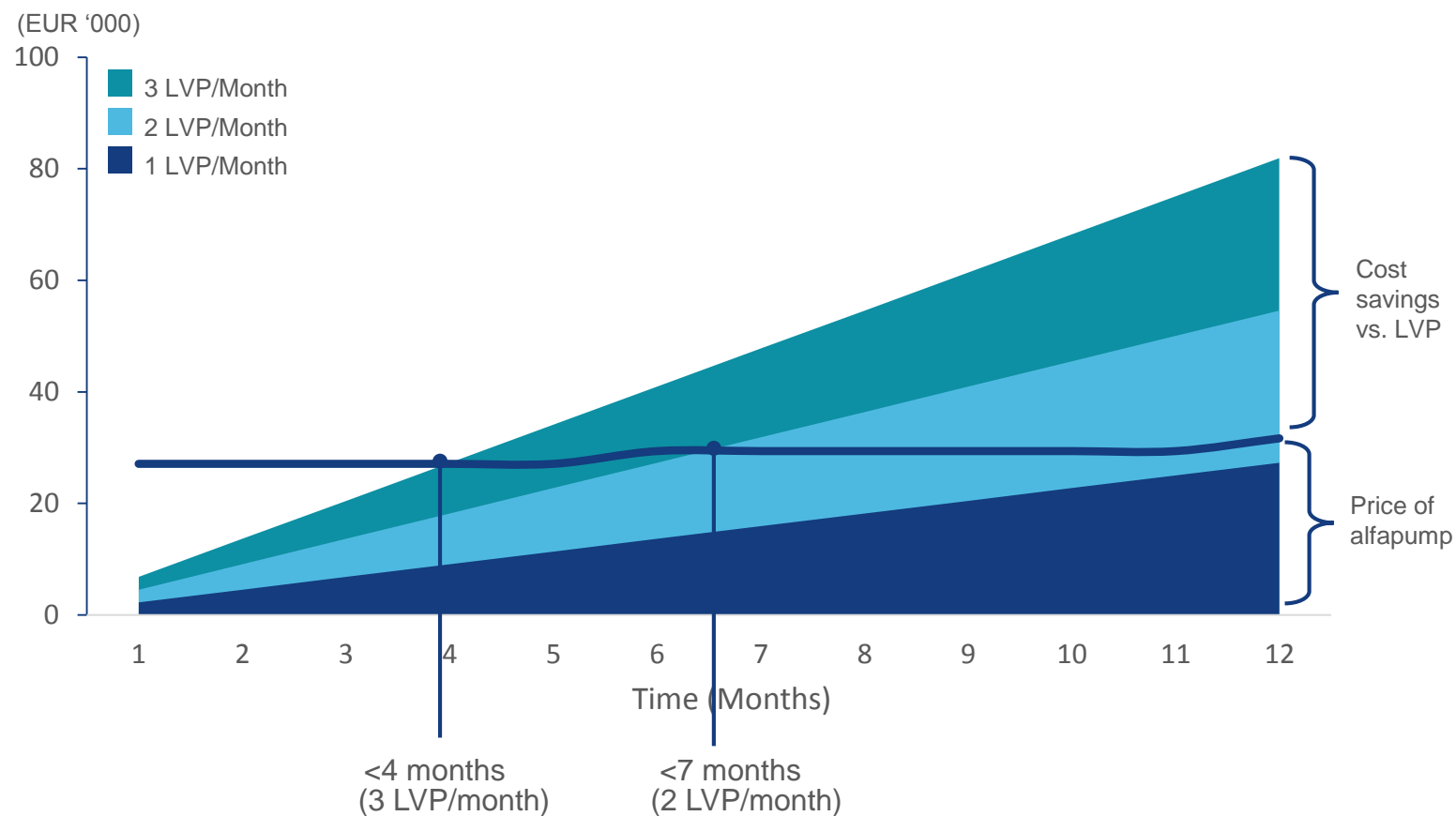


alfapump® for liver refractory ascites

Strong health economics rationale

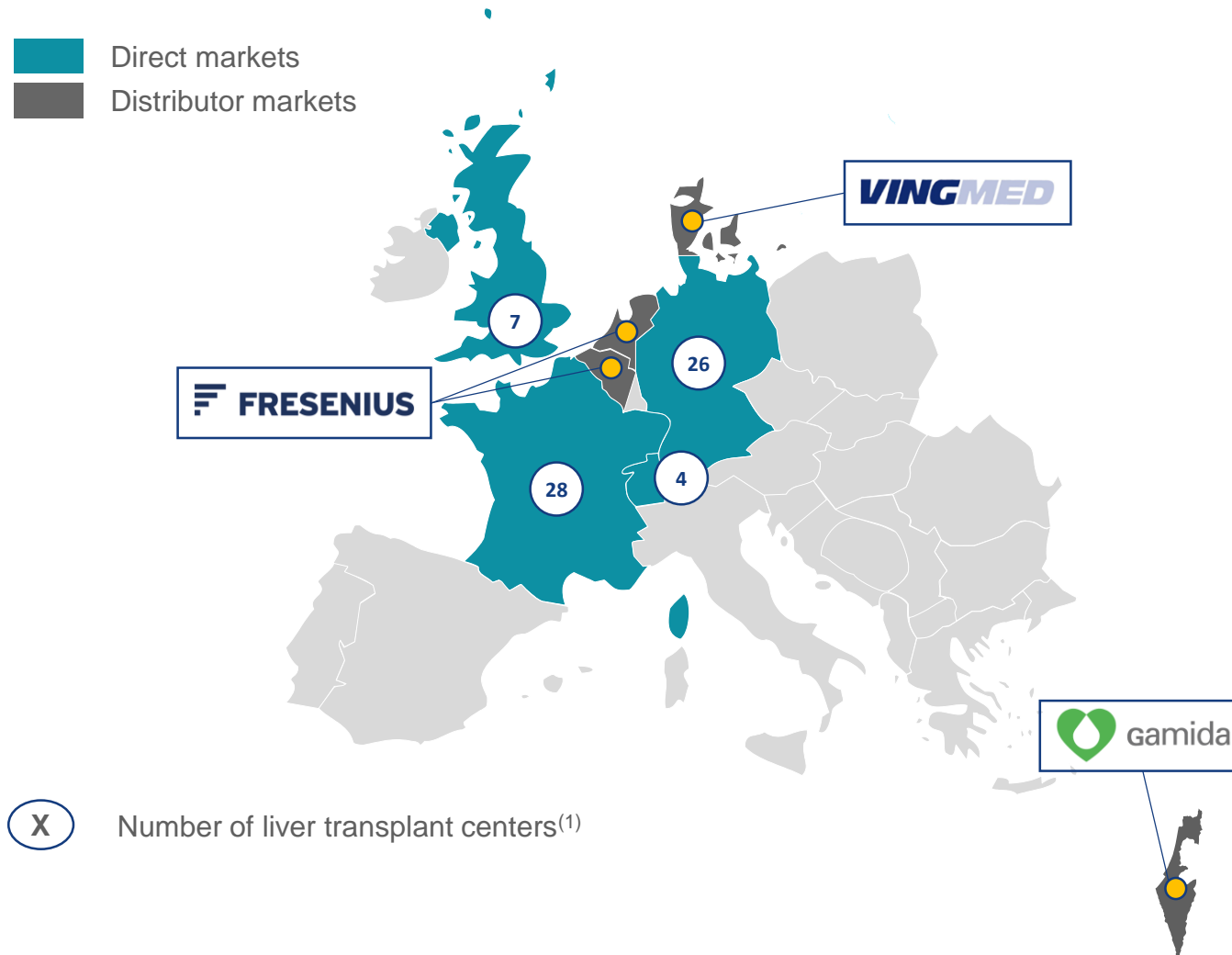
Elimination of regular drainage leads to substantial cost savings for hospitals and payers

As well as QoL benefits to patients and reduced burden on hospitals and doctors



Focused European commercial activities

Targeted and specialist commercial team



14 person team

Focus on specialist centers

Raise awareness at community hospital level

Strong support from patients and KOLs

Creating awareness amongst key stakeholders

Patients



“ My lifestyle has changed 100%. I was able to sleep better, eat better [...] making me feel that much better.

Family



“ I’ve got my freedom back. I can go shopping without having to be worried. It’s amazing, he’s actually dancing with me again.

Clinicians



“ The **alfapump** is an exciting new technique. Patient doesn’t need to go to the hospital so often. It allows for the patient to be free, mobile and self-caring.

Building clinical evidence

Received: 22 March 2017 | First decision: 17 April 2017 | Accepted: 30 August 2017
DOI: 10.1111/apt.14331

WILEY | **AP&T** Alimentary Pharmacology & Therapeutics

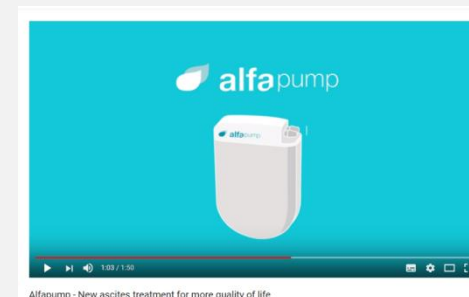
Treatment of refractory ascites with an automated low-flow ascites pump in patients with cirrhosis

G. Stirnimann¹ | T. Berg² | L. Spahr³ | S. Zeuzem⁴ | S. McPherson⁵ | F. Lammert⁶ | F. Storni¹ | V. Banz¹ | J. Babatz⁷ | V. Vargas⁸ | A. Geier⁹ | A. Stallmach¹⁰ | C. Engelmann² | C. Trepte¹¹ | J. Capel¹¹ | A. De Gottardi¹



Improvement in Quality of Life and Reduction in Large Volume Paracentesis Requirement from the MOSAIC Study: a Multicenter, Open-Label, Prospective 3-Month Study of the **ALFA** pump System in Refractory Ascites

Targeting patients through print & social media



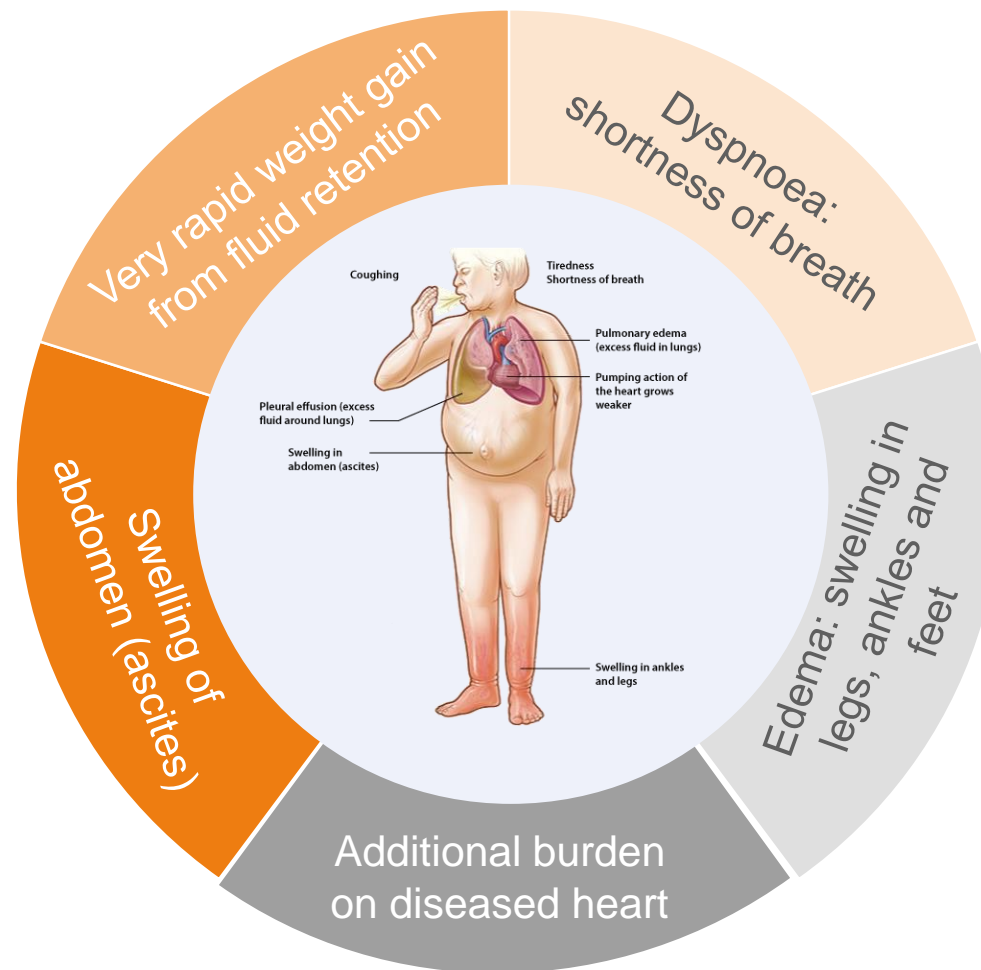
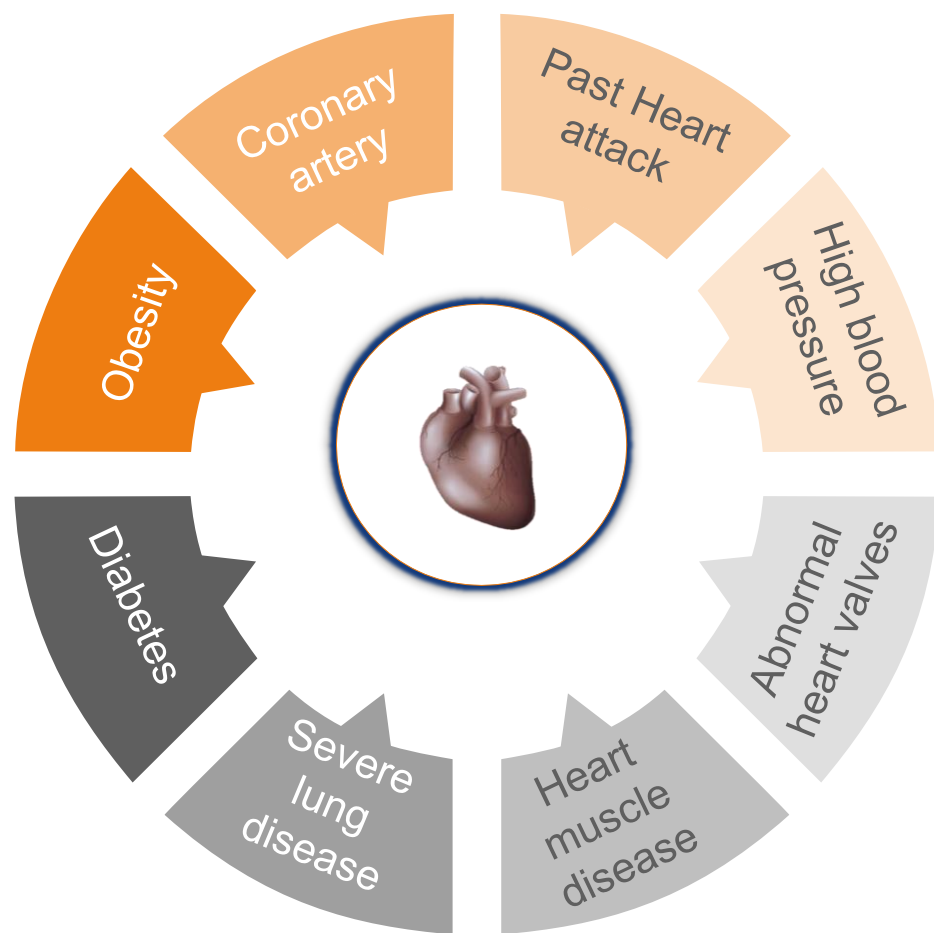


alfapump[®] DSR

Breakthrough approach to
volume overload in heart failure
built on proven **alfapump** platform

Heart failure is a large and growing market

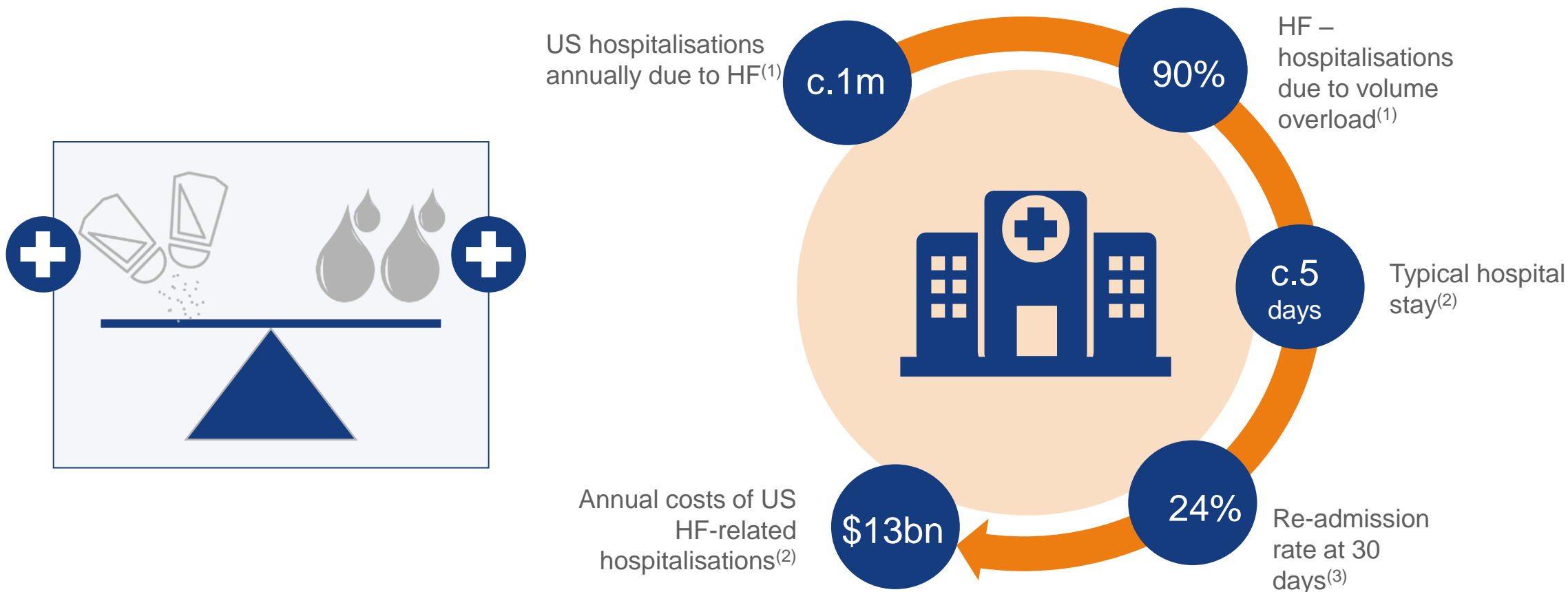
Nearly 6.5 million US adults affected⁽¹⁾ ; volume overload is a key clinical consequence



Source 1: Mozaffarian D, Benjamin EJ, Go AS, et al. Heart disease and stroke statistics—2017 update (adults: >=20 years of age)
 Source causes & consequences: American Heart Association, Mayo clinical website

Volume overload in Heart Failure (HF)

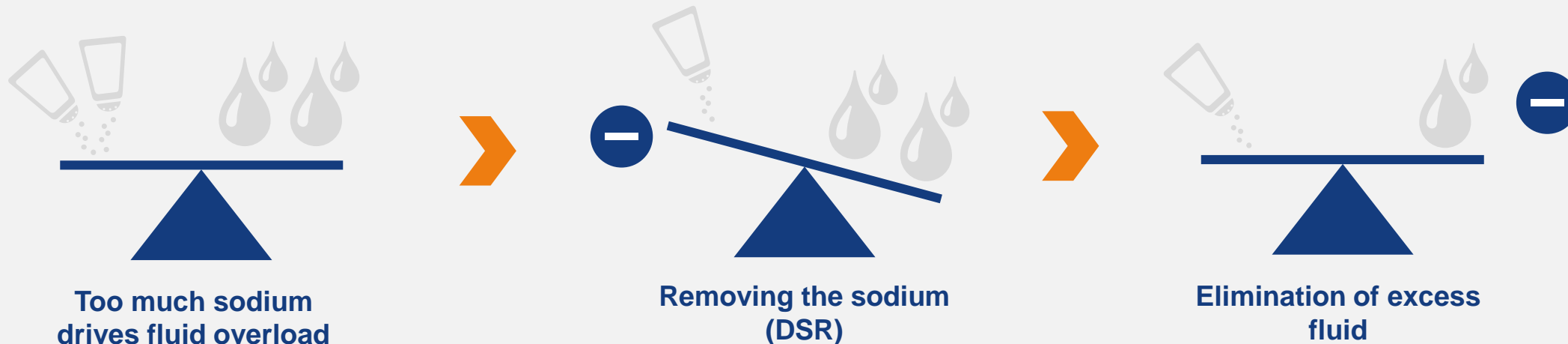
\$13 billion annual cost of HF-related hospitalisations; ~90% due to volume overload



Source 1: Costanzo et al., J. Am. Coll., 2007; Source 2: Kilgore et al. (2017); Source 3: Ross et al. (2010)

Direct sodium removal (DSR)

Tackling sodium removal directly



**Administer
infusate to
peritoneal
cavity**

**Infusate
extracts
sodium from
the body**

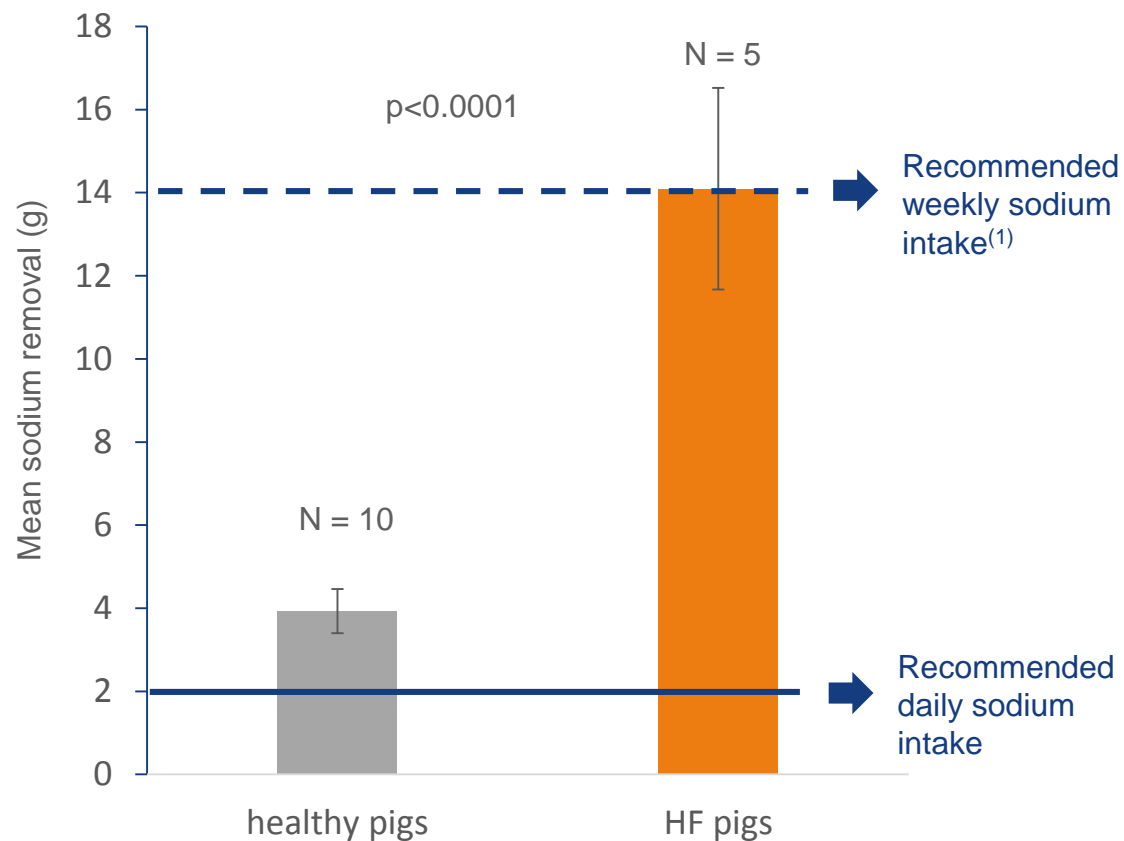
**Remove
extracted
sodium from
peritoneal
cavity**

**Body restores
balance by
eliminating
excess fluid**

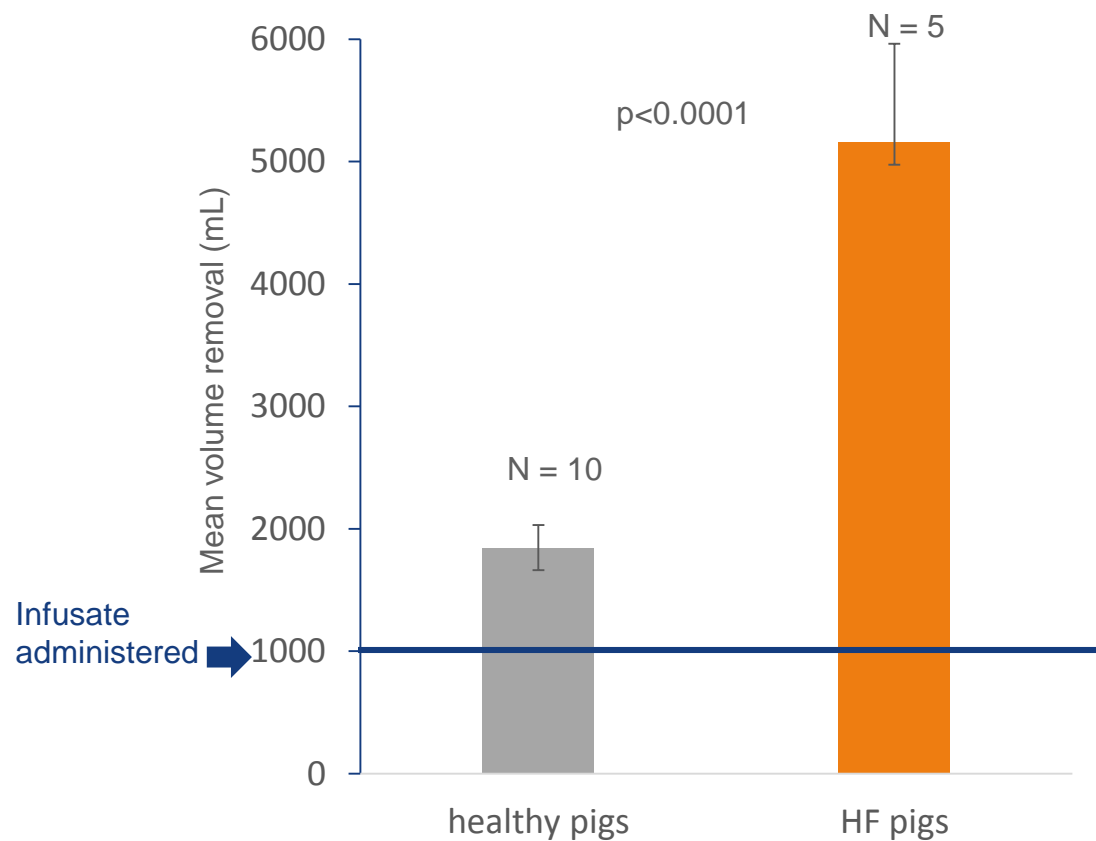
DSR pre-clinical Proof-of-Concept delivered

Study in healthy pigs and pigs with simulated heart failure (HF)

Clinically relevant removal of sodium



Effective fluid removal



Source 1: Weekly recommended intake for humans equals 14 grams (www.cdc.gov)

DSR clinical Proof-of-Concept study met primary and secondary endpoints

- ✓ DSR therapy was safe & well-tolerated with no adverse events or significant discomfort
- ✓ Substantially higher sodium removal with DSR vs standard PD solution
- ✓ Minimal inter-patient variability

- Initiated and conducted by Dr. Testani at Yale University
- 10 peritoneal dialysis (PD) patients with PD catheter
- Cross-over design: DSR infusate (D10) vs. standard PD solution
- 1 litre infusate administration with 2 hour dwell

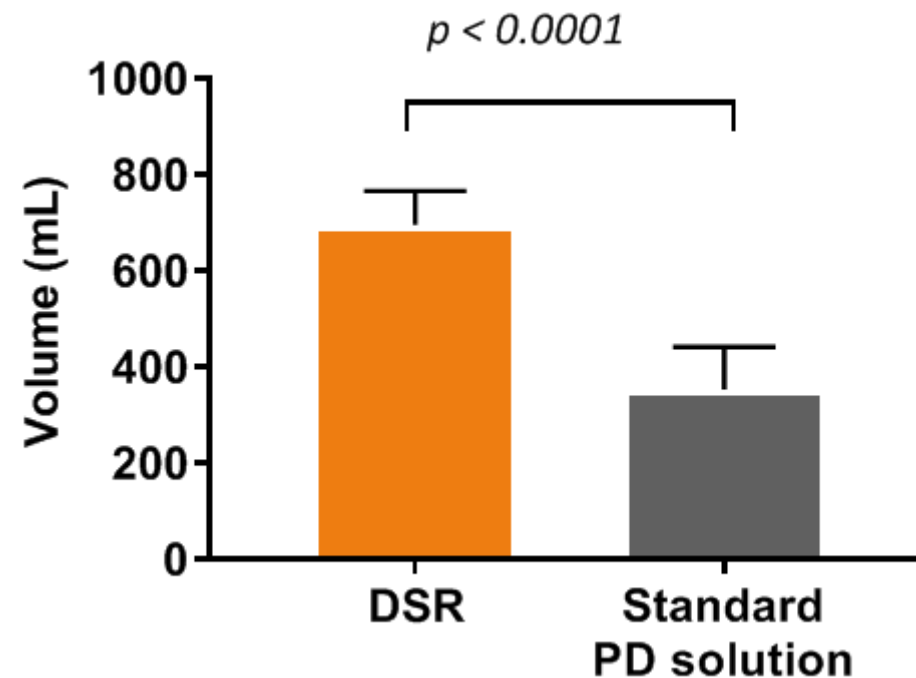
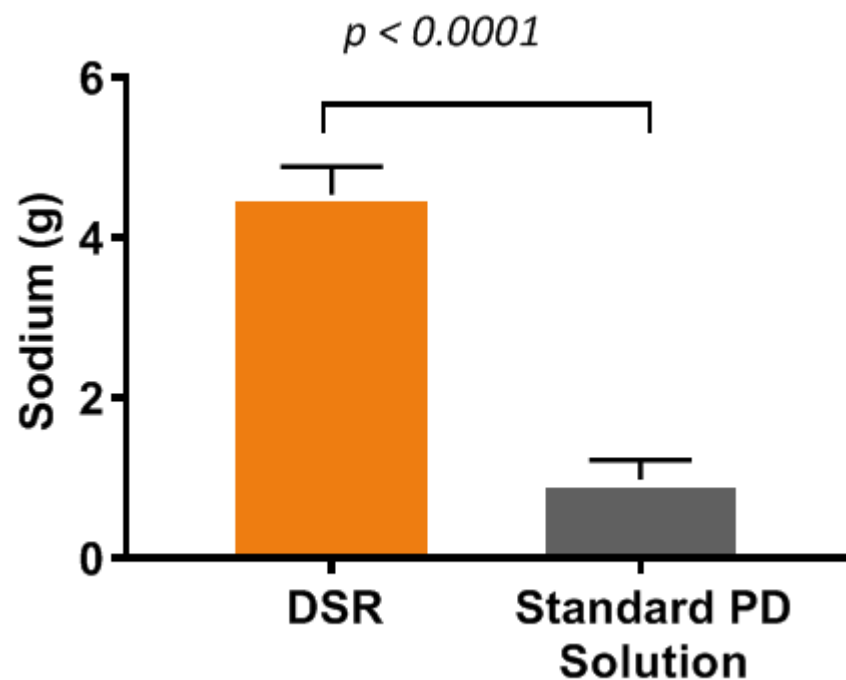
***Results presented in late-breaking oral presentation
at Heart Failure 2019***



Nearly 5 gram sodium removal with single dose DSR

Without safety or tolerability issues

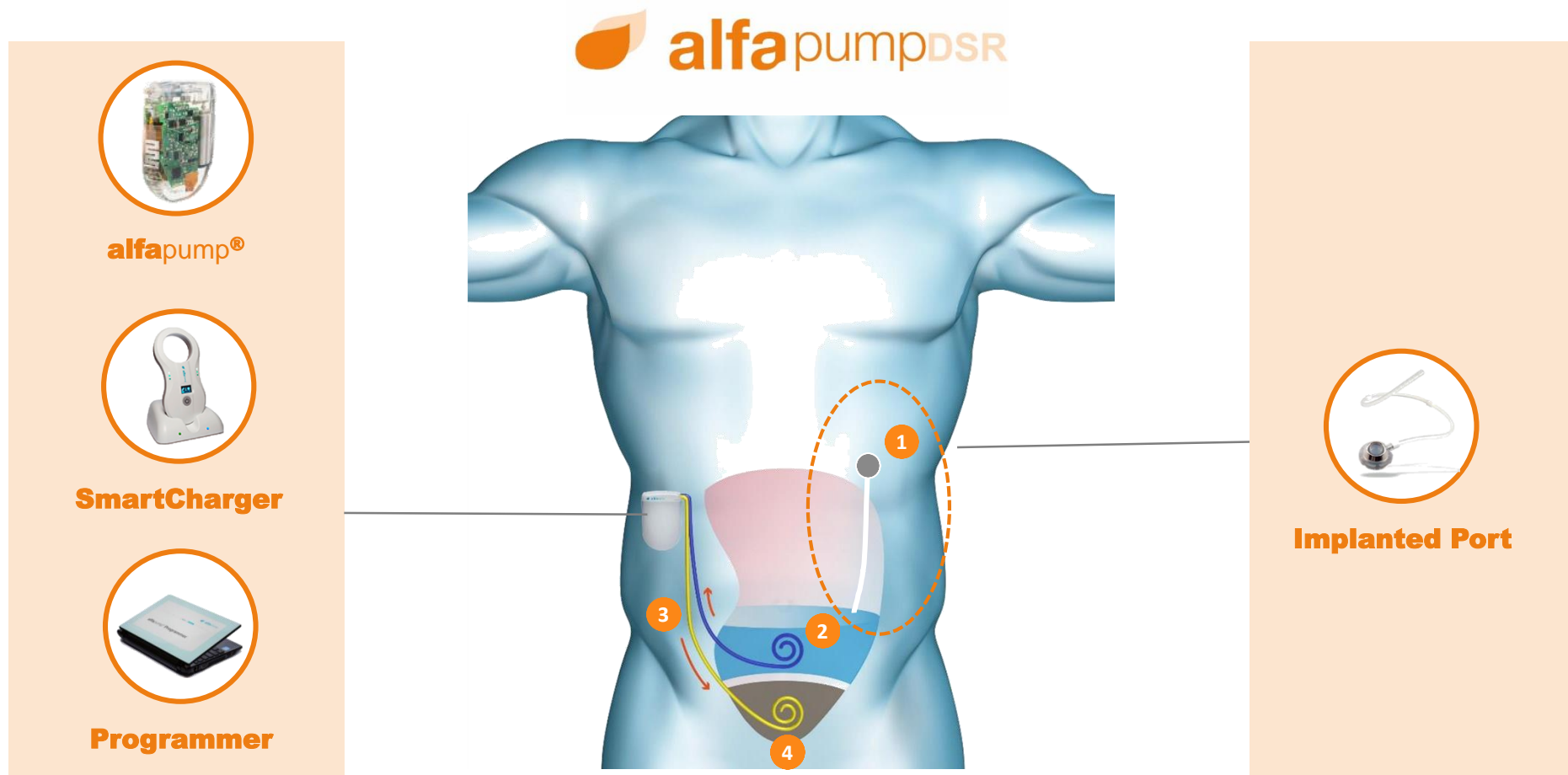
Yale



DSR can result in removal of large quantities of sodium and fluid in a safe and tolerable manner

alfapump[®] DSR

Fully implanted and convenient system leveraging the alfapump experience



Targeting alfapump DSR as chronic ambulatory therapy for HF patients that are not well controlled on diuretics

alfapump[®] DSR leverages on proven elements

Combining clinical proof-of-concept of DSR with validated alfapump platform



DSR

- Safe & well-tolerated
- Clinically relevant removal of sodium
- Minimal patient inter-variability



alfapump

- Validated technical performance
- Extensive clinical experience
- Deep understanding of implementation

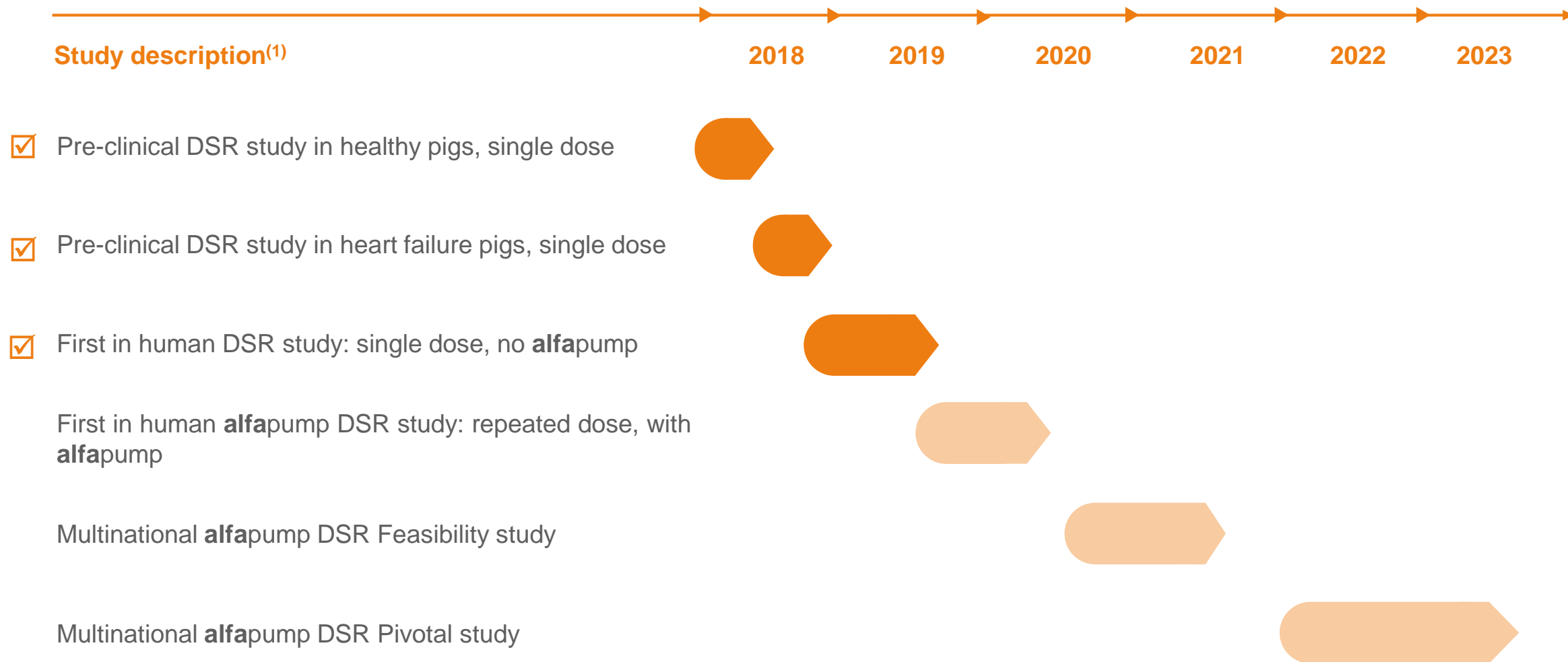


Implanted port

- Many years of clinical experience

Preparations underway for repeated dose alfapump DSR study to commence in H2 2019

alfapump[®] DSR development overview



Note 1: study design and timelines subject to change



conclusion.

Proven **alfapump**[®] platform;
strong IP position; experienced
leadership team



Strong organisation

Highly experienced leadership team supported by committed and well-reputed shareholders

Executive team:



Ian Crosbie
Chief Executive Officer



Kirsten Van Bockstaele
Chief Financial Officer



Martijn Blom
Chief Commercial Officer



Gijs Klarenbeek
Chief Medical Officer



Dirk Fengels
Vice President Engineering
& Manufacturing



Timur Resch
Global VP QM/QA/RA

Board of Directors:



Pierre Chauvineau
Board Chairman



Ian Crosbie
Chief Executive Officer



Rudy Dekeyser
Director



Wim Ottevaere
Director



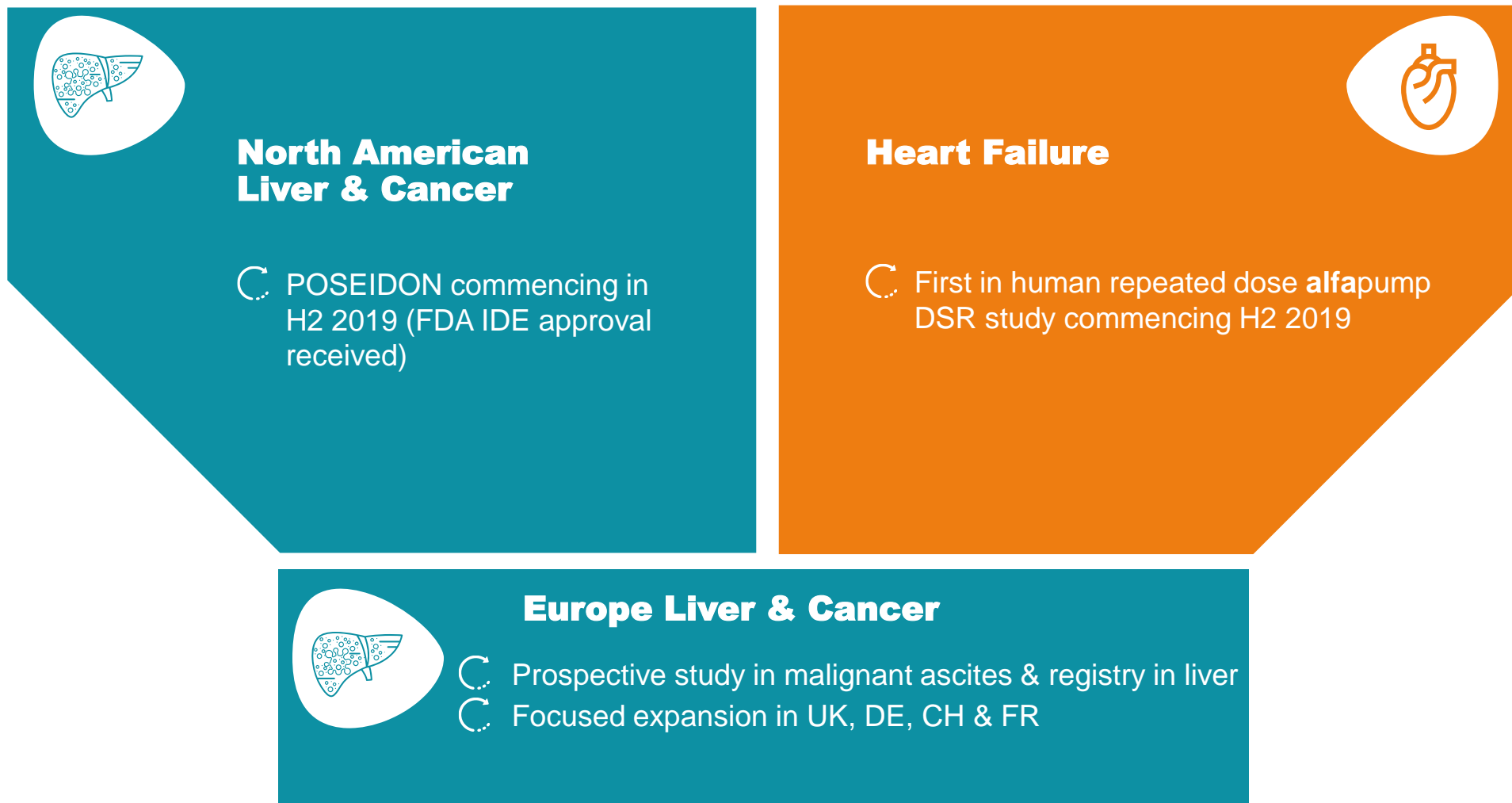
Erik Amble
Director



Jason Hannon
Director

Three platforms for growth

Near term activities



Strong news flow

Key anticipated milestones

H1 2019

- ✓ **alfapump**® received FDA Breakthrough Device designation
- ✓ **alfapump** included in German treatment guidelines (DGVS) for complications of liver cirrhosis
- ✓ Presented positive results of first-in-human single dose DSR study for volume overload in heart failure
- ✓ Received unconditional IDE approval from FDA to start North-American pivotal study (POSEIDON) in recurrent and refractory liver ascites patients

H2 2019

- Initiation of Prospective Malignant Ascites Study (ProMAS)
- Initiation of Step Counter study in refractory liver ascites patients
- Initiation of POSEIDON study in recurrent and refractory liver ascites patients
- Initiation of first-in-human repeated dose **alfapump** DSR study in heart failure patients with volume overload
- Initial results of first-in-human repeated dose **alfapump** DSR study in heart failure patients with volume overload

H1 2020

- Expected final German⁽¹⁾ reimbursement of **alfapump**
- Completion of enrollment of POSEIDON in recurrent and refractory liver ascites patients
- Presentation of final results of first-in-human repeated dose **alfapump** DSR study in heart failure patients with volume overload

IDE: Investigational Device Exemption; DSR: Direct Sodium Removal

Note 1: final German reimbursement = DRG incl ZE ("Zusatzentgelt"); ZE = DRG specific add-on payment granted permanently for specific case conditions and replaces temporary NUB add-on payment; ZE decisions are made once per year, at the beginning of each year



contact info.



IR@sequanamedical.com



+32 498 053579

www.sequanamedical.com