

CONNECT™

Get connected to optimal data management practices



The first innovative and intuitive perfusion data management system designed to improve clinical efficiency⁴ and enable Goal-Directed Perfusion Therapy



CONNECT™

is LivaNova's innovative and intuitive perfusion data management system
designed by perfusionists, for perfusionists.

The CONNECT System consists of **two core components**:



The **CONNECT Manager**:

- Manages all case data in one central SQL database
- Provides retrospective data analysis with included statistics tool
- Generates and exports EMRs
- Allows full customization of CONNECT Recorder according to preferences



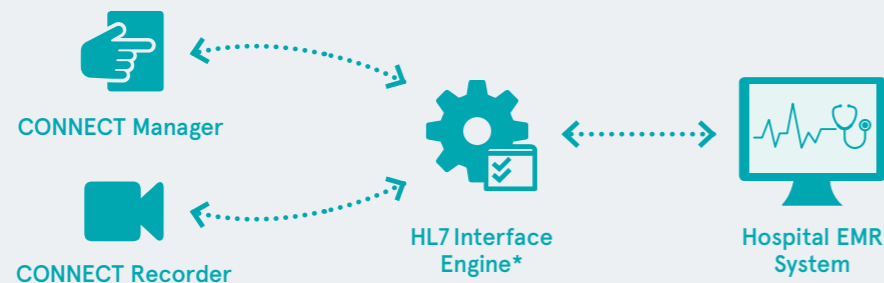
The **CONNECT Recorder**:

- Collects and visualizes data from HLM and other external devices
- Offers high level of customization to optimize viewing preferences
- Offers quick single-touch event entries at any time
- Enables Goal Directed Perfusion parameters via GDP™ Monitor

COMING SOON

and optionally available:

Upgrade your **CONNECT** System with our new **HL7** module and experience LivaNova's continued commitment to empowering perfusionists to improve clinical and data efficacy through an integrated patient data management system.



Main clinical benefits of **CONNECT HL7**:

- Simplification of the clinical data workflow
- Improved data integrity
- Enhanced legibility
- Reduction in manual processes

Main features of **CONNECT HL7**:

- New graphical user interface with a powerful HL7 search engine to search for patient data in the EMR system and seamlessly import it into either CONNECT Manager or CONNECT Recorder
- Automatic upload of the post-operative PDF patient record into the EMR system
- Post-operative export of recorded patient data during Extra Corporeal Circulation (ECC) directly into the graphical user interface of the EMR system
- Full customization options to reflect hospital specific EMR and emergency workflows

* Based on Mirth connect

Connect to clinical efficiency with greater confidence

Minimize

Transcription errors and bias.⁴

Diminish

Inefficiencies of manually entering product traceability data.

Decrease

Limitations of analyzing manually recorded data.

Reduce

Occurrence of Acute Kidney Injury.^{1, 2, 3, 6, 7, 8, 9}

CONNECT

Allows trending while centralizing all patient data on one screen.

CONNECT

Automatic transfer of information from LivaNova disposables and creation of electronic patient records.

CONNECT

Customizable online quality indicators and post-op electronic quality reports.

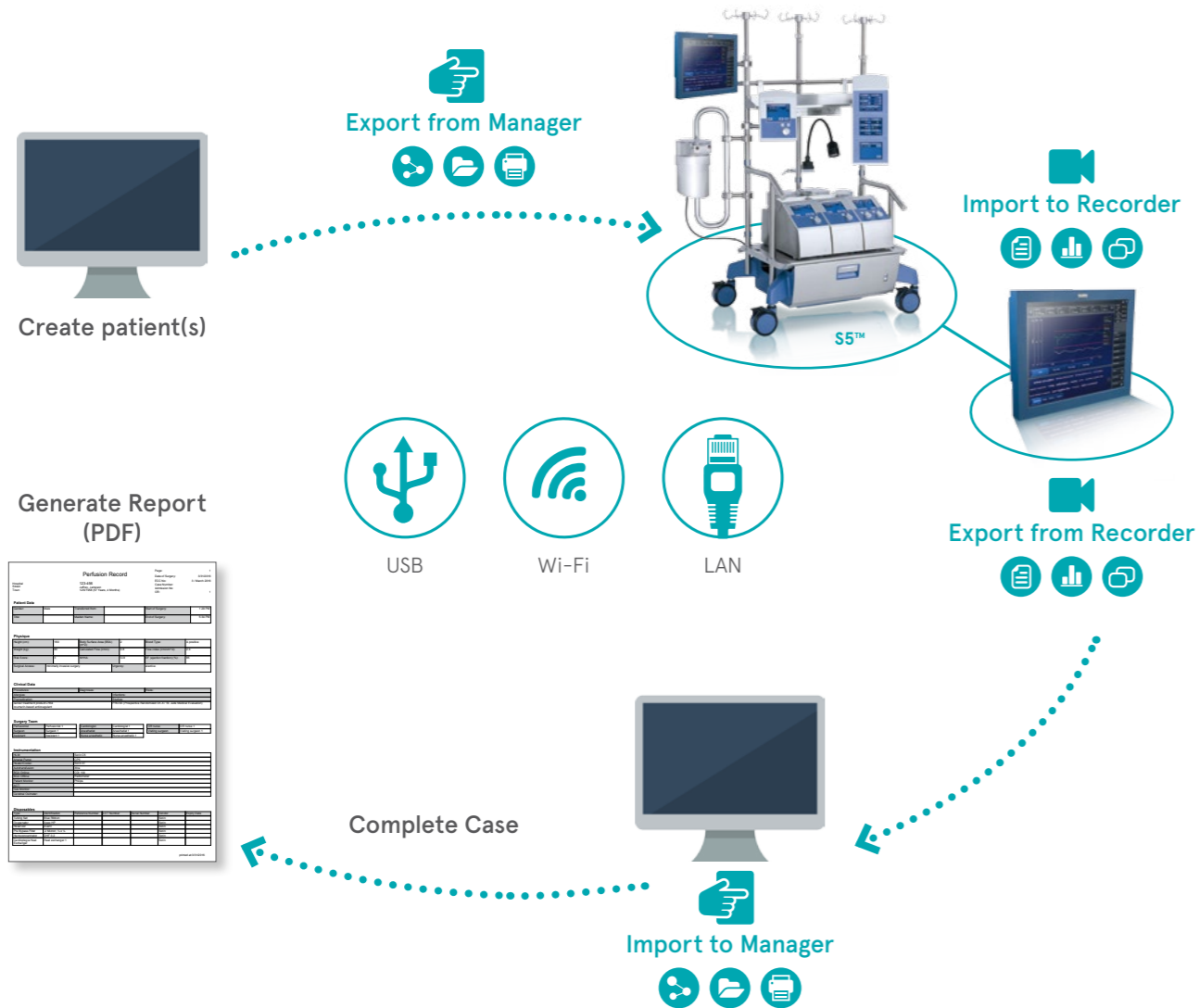
CONNECT









Enables Goal-Directed Perfusion (GDP) Therapy through monitoring of critical metabolic patient parameters with GDP Monitor.

Improved clinical practice

The **CONNECT** workflow system minimizes transcription errors, bias and all the drawbacks associated with manual operations.⁴ CONNECT allows trending and electronic transfer of data from LivaNova disposables.

The perfusionist accesses all perfusion data on one screen allowing more time to concentrate on the patient and circuit facilitating optimal patient management.⁴ All data is then exported back to the Manager database where the clinician may consult case per case for statistical and inventory analysis, generate and export or print complete electronic medical records.



-  **CONNECT Manager**
-  **CONNECT Recorder**
-  **Case record database**
-  **Automatic case information capture**
-  **Inventory and statistics tools**
-  **Customizable data charts**
-  **Print or export patient records**
-  **Quick, easy manual event entry**

All the information you need on one screen

Easy, intuitive and complete Graphical User Interface (GUI).

During the operation, the perfusionist can view, in real-time, data and patient parameters in the form of graphs or charts according to personal preference. The perfusionist may also enter any data as well as comments and event entries in order to have complete documentation during the case.

The CONNECT system may also be configured to collect data electronically from a variety of patient monitors, blood gas devices, ACT meters, cerebral oximetry devices, etc.



Fluid balance overview screen

Events shown as chart

Gas flow chart

GDP™ Monitor

Critical patient parameters at your fingertips

Empowering Goal-Directed Perfusion Therapy with the optional GDP Monitor feature

Goal-Directed Perfusion is a perfusion therapy aimed at reducing the occurrence of Acute Kidney Injury (AKI), shortening ICU and hospital length of stay, and potentially decreasing Red Blood Cell (RBC) transfusions by respecting the metabolic needs of each patient during cardiac procedures.

5 GUIDING RULES TO IMPLEMENT GOAL-DIRECTED PERFUSION 1, 2, 3, 5, 6, 7, 8, 9

- 1 Limit hemodilution on CPB (Hct management)*
- 2 Oxygen Delivery index DO_2i to be kept $> 270 \text{ ml} / \text{min} / \text{m}^2$
- 3 Increase the DO_2 by acting on pump flow, PaO_2
- 4 Oxygen Delivery to Carbon Dioxide production ratio (DO_2i / VCO_2i), to be kept > 5
- 5 Transfuse RBC based on SvO_2 and O_2ER^{**} rather than HCT

LivaNova, together with leading clinicians that have studied the clinical benefits and improved patient outcomes associated with Goal-Directed Perfusion, are at the forefront in creating global awareness of the advantages of this therapy. Furthermore, LivaNova implements and transparently provides the GDP formulas patented by Dr Marco Ranucci.

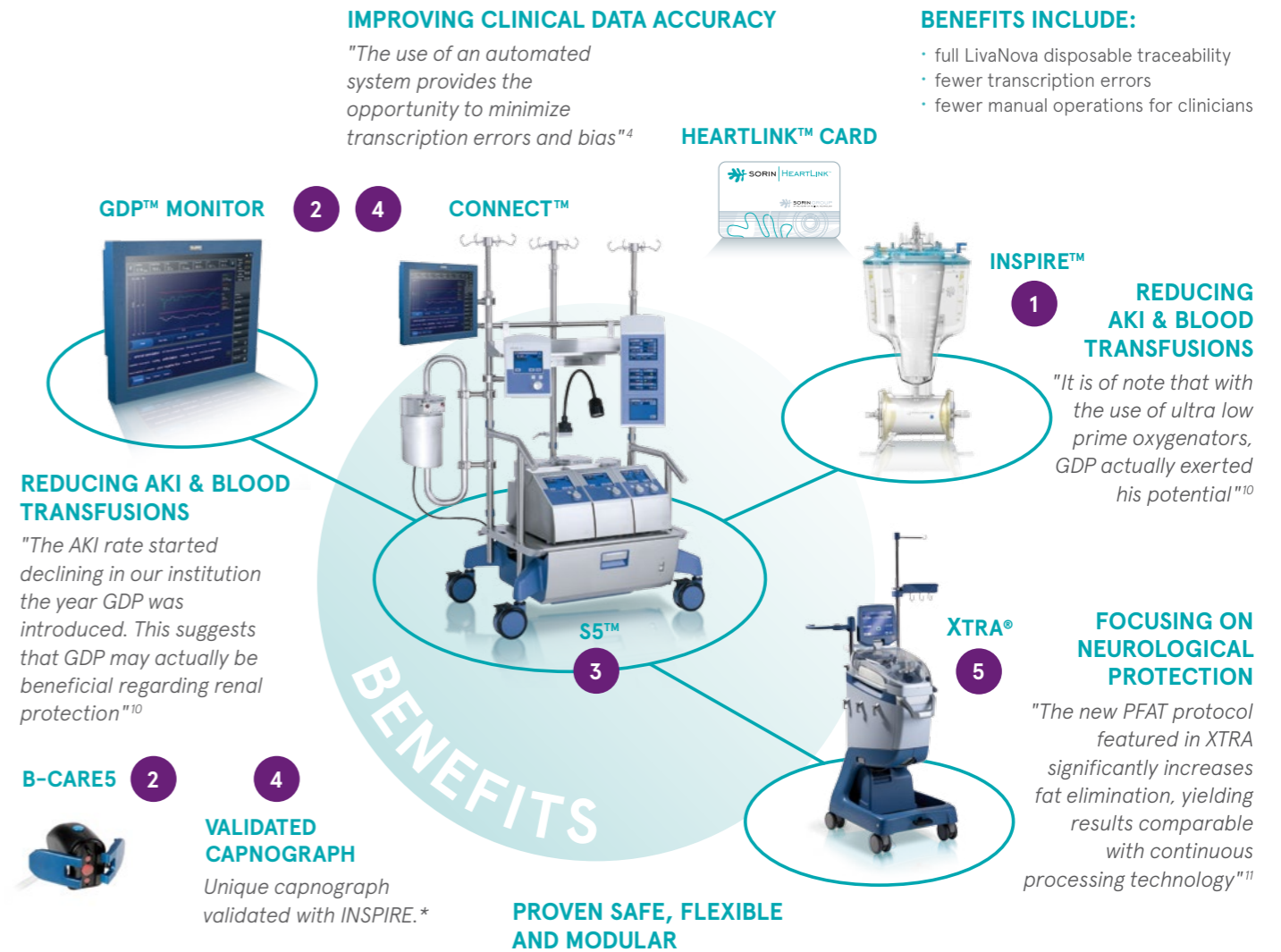
With the **GDP Monitor** the perfusionist may view advanced parameters such as VCO_2i , O_2ER and the metabolic ratio DO_2i/VCO_2i . Such parameters are relevant for optimal perfusion management where the metabolic needs of each patient during cardiac procedures is effectively respected.^{1, 2, 3, 5, 6, 7, 8, 9}



* -1% point of Nadir Hct → +7% AKI (Ranucci et al. "Acute Kidney Injury and Hemodilution During Cardiopulmonary Bypass: A changing Scenario"; Ann Thoracic Surg. 2015 Jul;100(1):95-100)
 ** VO_2i / DO_2i : fraction of DO_2 that diffuses from capillaries into tissues: goal <35-39% (VO_2 = Oxygen Consumption)

HEARTLINK™ SYSTEM

The first automatically integrated Perfusion Management System designed for improved patient outcomes, increased clinician efficiency and Goal-Directed Perfusion.



PROVEN SAFE, FLEXIBLE AND MODULAR

"I am using the S5 in various configurations according to the different weight of my patients. This helps me to achieve an optimum relation between the priming and blood volume of the patient. The flexible mast mounted pumps allow a very close positioning of the whole system to the patient"

Frank Münch, Chief perfusionist,
University hospital Erlangen, Germany

* Refer to LivaNova for more information

References:

1. O₂ delivery and CO₂ production during cardiopulmonary bypass as determinants of acute kidney injury: Time for a Goal-Directed Perfusion management?
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Ranucci M, Romitti F, Isgrò G, Cotza M, Brozzi S, Boncilli A, Ditta A; Ann Thorac Surg. 2005 Dec;80(6):2213-20
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10. Acute kidney injury and hemodilution during cardiopulmonary bypass: a changing scenario.
Ranucci M, MD, FESC, Aloisio T, MD, Carboni G, CCP, Ballotta A, MD, FESC, Pistuddi V, Menicanti L, MD, and Frigiola A, MD; Surgical and Clinical Outcome REsearch (SCORE) Group. Departments of Cardiothoracic and Vascular Anesthesia and Intensive Care and Department of Cardiac Surgery, IRCCS Policlinico San Donato, Milan, Italy
11. The impact of bowl size, program setup, and blood hematocrit on the performance of a discontinuous autotransfusion system.
Seyfried T F et al., doi:10.1111/trf.13954; Transfusion 2017

Order Guide

IDENTIFICATION	CODE	DESCRIPTION	QUANTITY / BOX
CONNECT™ Recorder	24-90-80	for S5	1
CONNECT™ Recorder	24-90-81	for S3	1
CONNECT™ Manager	24-90-45		1

Additional packages for upgrades from DMS are available, please contact your local Representative for more details.

SPECIFICATIONS:

CONNECT Manager

Operating system: Microsoft® Windows® XP service pack 3 / Microsoft® Windows® 7

.NET used: 3.5 SP1

Database used: Microsoft® SQL Server 2008R2 or higher.

DataPad for CONNECT Recorder

Operating system: Microsoft® Windows® 7 Ultimate 32-bit

CPU: Intel® Celeron® 2002E 1.5GHz

RAM: 4GB DDR3L 1600

1x COM Port RS232

4x USB Port (2.0, EHCI)

1x DVI Port

1x IEEE 802.3u 100 Base-Tx Fast Ethernet compatible port

HDD: 64GB SSD

Removable HDD: 16GB CFAST

WLAN Module Specifications

Frequency Range: 2.4 GHz to 5 GHz

Wireless network standard: IEEE 802.11a/b/g/n

LivaNova
Health innovation that matters

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The LivaNova Deutschland Quality System complies with:
EN ISO 13485:2012

CE 0123 According to Annex II (Full Quality System) of
MDD 93/42/EEC as amended by directive 2007/47/EEC

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