

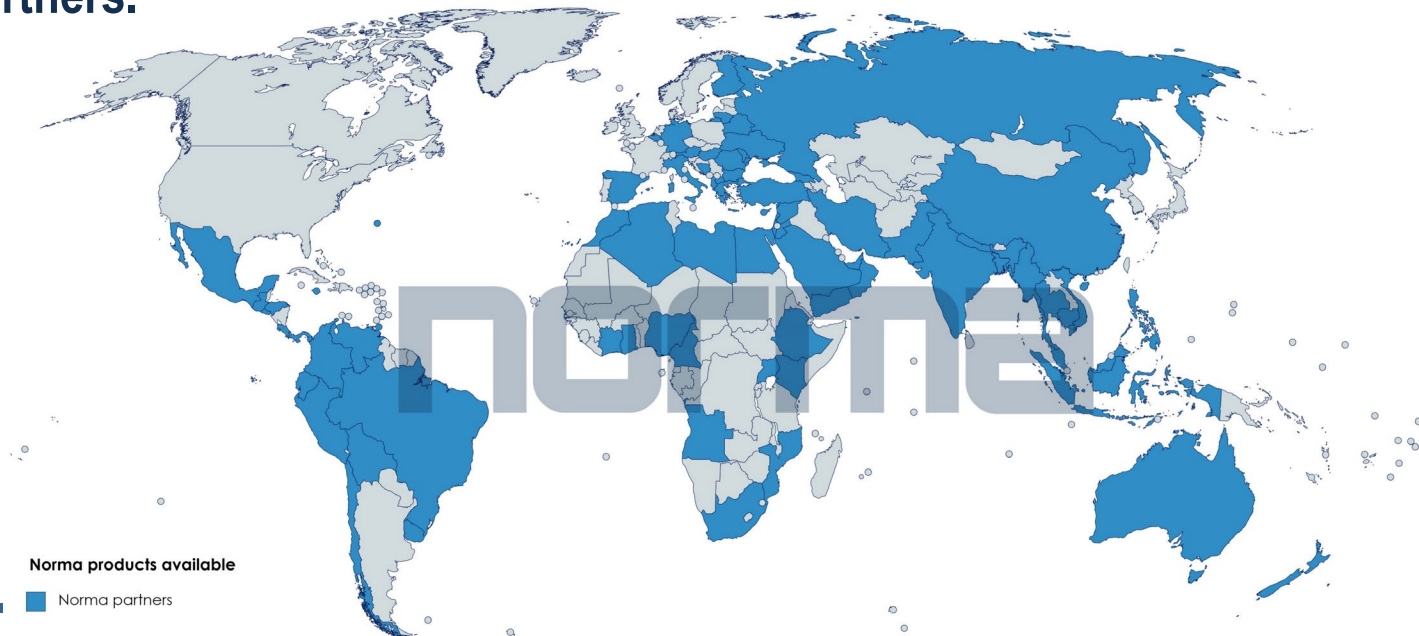
Norma Instruments Zrt.

Company and Product Introduction

The logo for Norma Instruments Zrt. is located in the bottom right corner. It consists of the word "norma" in a white, lowercase, sans-serif font. The letters are bold and have a modern, slightly rounded appearance. The background of the slide features a dark blue diagonal shape on the right and a lighter blue shape on the left, creating a dynamic geometric design.

norma

- 💧 Designing and manufacturing of high quality and innovative **hematology analyzers and reagents for human medical and veterinary use.**
- 💧 Devoted team of 65 people with decades of experience in the development, production, and commercialization of **laboratory diagnostic equipment.**
- 💧 Products are available in about **80 countries in 5 continents via branded and OEM partners.**



Corporate Vision

*Our vision is to make hematology practices available in every corner of the world. We constantly focus on **creating new technologies** that can contribute to **more effective patient care** by allowing patients to receive quicker diagnosis and treatment at site, thus helping them with **more efficient and faster recovery**.*

💧 **Size does matter**

💧 **Time is a key factor to provide efficient medical care**

Norma Instruments Milestones

YEAR	MILESTONES
1978	Founders of Norma Instruments began their career at a world-renowned prominent medical device manufacturer
1989	Founders established their first IVD company
2012	Norma Instruments was established with a professional team having 30+ years of experience in the development of hematology analyzers
2014	3 diff. analyzer Icon-3 was launched
2015	Launch of generic reagents
2016	5 diff. analyzer (closed) Icon-5 was launched
2017	5 diff. veterinary analyzer iVet-5 was launched
2018	5 diff. analyzer (open) Icon-5 OP was launched
2018	5-part diff.'s flagging system
2019	Norma Autoloader launch for Icon-5



Patents, Certificates and Awards

6 Patents, 2013-2015

- e.g. Sample Rotor, Shear Valve, Optical Head

Design Protection, 2013, 2019

Red Dot Award, 2014

Senetics Award, 2014

Innovation Prize, 2014

Millennium Innovation Prize, 2016

Environmental Innovation Prize, 2019



reddot award 2014
winner



Szellemi Tulajdon
Nemzeti Hivatala

Product Presentation and Future Development Projects

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Our Technology

MICROFLUIDIC TECHNOLOGIES

SMALLEST
hematology analyzers

SMALLEST
sample volume processing

SMALLEST
reagent consumption

21st CENTURY SOLUTIONS

Elegant design

10.1" LCD touch screen

Internet access

Bi-directional LIS communication protocol



Smallest Ecological Footprint

**70% less ecological
footprint**



Point-of-Care

vs.

Conventional

**Results only in
10-15 minutes**

**Patient is admitted to a
hospital department**

**Blood is drawn from the
patient**

**Blood is tested on a
hematology analyzer**

**Results are available on
the screen**

**Results in
2-3 hours**

Blood is sent to laboratory

**Blood is tested on a
hematology analyzer**

**Results are sent back to
the department**

Norma Hematology Family

💧 Icon-3

a smart, 3-part diff hematology analyzer



💧 Icon-5 and Icon-5 OP

the smallest, laser-based,

5-part diff hematology analyzers with closed or open sampling



💧 Autoloader

automated sample vial loading device



💧 iVet-5

a small and smart solution for all veterinary clinics



💧 Generic Hematology Reagents

a full line of dedicated reagents for automated cell-counters



Best Features of the Icon Family

- 💧 **Smallest hematology analyzers** – A/4 paper size footprint
 - 💧 Dimensions (HxWxD): 28 x 22 x 33 cm
 - 💧 Net Weight: 9 kg
- 💧 **Smallest sample volume processing** – one drop of blood!
 - 💧 Possible to measure from capillary blood samples
- 💧 **Smallest reagent consumption** – 70% less than any other analyzer with reagent pack
- 💧 **10.1" LCD touch screen** – easy to use, straightforward navigation
- 💧 **Build in Camera for QR code reading** – convenient solution for date entry
- 💧 **Minimal user maintenance** actions needed (5-part diff analyzers)
- 💧 **Remote Access** – a convenient online diagnostic tool
- 💧 **Dual Use** – both for **point-of-care** and **laboratory user**



Point-of-Care Applications – Examples

- 💧 Intensive Care Units
- 💧 Emergency Departments
- 💧 General Practitioner Offices
- 💧 Blood Banks
- 💧 Mobile Care Units
- 💧 On site applications:
 - 💧 nuclear radiation detection
 - 💧 blood doping detection
 - 💧 military applications



Smart and Modern User Interface of Icon Family

- 💧 Wi-Fi communication with LIS, Printer, Remote Access
 - 💧 E-mail results to LabPC
- 💧 Many-many options to set the analyzer to the Labs routine
- 💧 Good troubleshooting diagnostic solutions



Innovative Solutions – Summary

💧 Key drivers of our innovation

- 💧 Avoid „me-too” product and establish a brand - Icon
- 💧 Offer the latest technology in our analyzers
- 💧 Achieve small footprint, small sample volume and low reagent consumption

💧 Highlights

- 💧 Keep the widely accepted measuring principles
(volumetric impedance, FLLScattered optical methods)
- 💧 Microfluidics (small sample volume, small fluidic components)
- 💧 Using the latest IT solutions

Norma Products in Details

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Icon-3 Technical Specifications

Measuring principle: Volumetric impedance method for WBC and RBC
Photometrical method for HGB

22 Parameters: WBC, LYM, MID, GRA, LYM%, MID%, GRA%,
RBC, HGB, HCT, MCV, RDWsd/cv, MCH, MCHC,
PLT, MPV, PCT, PDWsd/cv, PLC-R%, PLC-C

Sampling mode: Closed and open tube sampling

Sample volume: Aspirated:
Closed: 38 uL whole blood
Open: 13 uL whole blood

Processed: 2.5 uL whole blood

Throughput: 60 samples/ hour

Reagent Packs: 100 tests; 500 tests



Icon-5 Technical Specifications

Measuring principle: Laser based forward-scattered light detection for WBC
Volumetric impedance method for RBC
Photometrical method for HGB

27 Parameters: WBC, LYM, MON, NEU, EOS, BAS, LYM%, MON%, NEU%, EOS% BAS%,
NLR, RBC, HGB, HCT, MCV, RDWsd/cv, MCH, MCHC,
PLT, MPV, PCT, PDWsd/cv, PLC-R%, PLC-C

Sampling mode: Closed tube sampling

Sample volume: Aspirated: 38 uL whole blood
Processed: 2 x 1.4 uL whole blood

Throughput: 60 samples/ hour

Reagent Packs: 100 tests; 400 tests



Icon-5 OP Technical Specifications

Measuring principle: Laser based forward-scattered light detection for WBC
Volumetric impedance method for RBC
Photometrical method for HGB

27 Parameters: WBC, LYM, MON, NEU, EOS, BAS, LYM%, MON%, NEU%, EOS% BAS%,
NLR, RBC, HGB, HCT, MCV, RDWsd/cv, MCH, MCHC,
PLT, MPV, PCT, PDWsd/cv, PLC-R%, PLC-C

Sampling mode: Open tube sampling

Sample volume: Aspirated: 38 uL whole blood
Processed: 2 x 1.4 uL whole blood

Throughput: 57 samples/ hour

Reagent Packs: 100 tests; 250 tests



Autoloader Technical Specifications

Compatible with:	Icon-5
Capacity:	50 samples/tray
Supported vial types:	Greiner Vacuette; BD Vacutainer; BD MAP
Operation modes:	Full sequence operation (full tray scan) Random access mode
Dimensions (HxWxD):	340 x 220 x 310 mm
Weight:	8.5 kg
Normaboard Dimensions (WxD):	435 x 375 mm
Other features:	Built-in sample mixer and barcode reader All operations can be paused at any time Emergency samples can be measured directly on analyzer's closed vial port



iVet-5 Technical Specifications

Measuring principle: Laser based forward-scattered light detection for WBC
Volumetric impedance method for RBC
Photometrical method for HGB

26 Parameters: WBC, LYM, MON, NEU, EOS, BAS, LYM%, MON%, NEU%, EOS% BAS%,
RBC, HGB, HCT, MCV, RDWsd/cv, MCH, MCHC,
PLT, MPV, PCT, PDWsd/cv, PLC-R%, PLC-C

Sampling mode: Open tube sampling

Sample volume: Aspirated: 38 uL whole blood
Processed: 2 x 1.4 uL whole blood

Throughput: 57 samples/ hour

Species: Dog, cat, horse, foal, camel, guinea pig

Reagent Packs: 100 tests (in case of 3 measures/day)



Hematology Reagents – QC system

- 💧 Packs for tests – depending on routine workload
100 / 250 / 400 / 500 tests – product dependent
- 💧 Or individual containers
- 💧 3 online reagents and 2 offline cleaning solutions
- 💧 3 level Quality controls and calibrator
- 💧 Advanced QC system
- 💧 QR code reading with built in camera



New developments, new applications

Application of Norma Icon-5 during the Covid-19 pandemic

- 💧 The Icon-5 device can detect NLR (neutrophil-lymphocyte ratio) values from a complete blood count in 5 minutes, which may help diagnose patients with severe Covid-19 in the early stages of the disease.
- 💧 If the patient has a proven coronavirus infection, treatment can be determined based on the NLR value and the patient's age. The number of “false alarms” can be radically reduced and unnecessary use of valuable medical capacity and costly treatments can be minimized.



Norma's Presence in Africa

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Norma Products in Africa – Summary

- Mostly Icon-3, Icon-5, Icon-5 OP hematology analyzers, iVet-5 veterinary hematology analyzer, and Norma Autoloader were purchased by African organizations and companies via Norma distributor network and OEM partners.

- Important:**

Requirements to sell products in African countries:

- Registration of medical devices at local authorities
- Local support (partners) to arrange regulatory affairs and to negotiate with authorities
- Technical support by Norma (training, maintenance and service support)

Norma Products in Africa – Summary

- Altogether **172 Norma products** and **285 OEM products** were sold in **20 African countries**.



104 pieces sold via distributors
137 OEM products sold



50 pieces sold via distributors
74 OEM products sold



2 pieces sold via distributors
42 OEM products sold



14 pieces sold via distributors
32 sold together w/ OEM products



2 pieces sold via distributors

Country	Quantity
Mozambique	1
Tunisia	1
Algeria	2
Cote D'Ivoire	1
Somalia	2
Cameroon	13
Libya	4
South Africa (w/ Namibia & Botswana)	3
Benin	4
Angola	5
Uganda	5
Ghana	7
Nigeria	16
Kenya	15
Morocco	15
Egypt	10



Icon-5 and Icon-5 OP in Africa

💧 Countries where Icon-5 and Icon-5 OP were sold:

Product	Country	Quantity
Icon-5	Somalia	1
	Tunisia	1
	Uganda	1
	Burundi	2
	Angola	3
	Ghana	3
	Morocco	3
	Nigeria	9
	Kenya	8
	South Africa (w/ Namibia & Botswana)	12
	Egypt	1
	Cameroon	4
	Congo	2
	Uganda	1
Icon-5 OP	South Africa	1



50 pieces sold via distributors
74 OEM products sold



2 pieces sold via distributors
42 OEM products sold



Autoloader in Africa

💧 Countries where Norma Autoloader was sold:

Country	Quantity
Ghana	1
Morocco	1
South Africa	1
Nigeria	4
Kenya	7



14 pieces sold via distributors
32 sold as OEM products



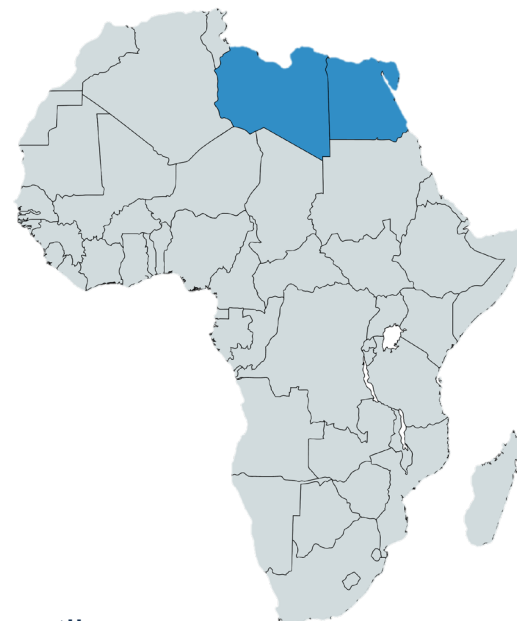
iVet-5 in Africa

💧 Countries where Norma iVet-5 was sold:

Country	Quantity
Lybia	1
Egypt	1



2 pieces sold via distributors



Norma's Presence in Turkey

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Norma Products in Turkey – Summary

- ◆ Icon-3 hematology analyzer for human application and iVet-5 veterinary hematology analyzer were purchased in Turkey.

- ◆ **Important:**

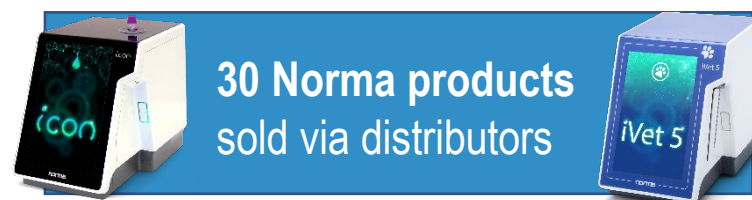
Requirements to sell products in Turkey:

- ◆ Registration of medical devices at local authorities
- ◆ Local support (partners) to arrange regulatory affairs and to negotiate with authorities
- ◆ Technical support by Norma (training, maintenance and service support)

Norma products in Turkey

💧 Norma iVet-5 and Icon-3 were sold:

Product	Country	Quantity
Icon-3	Turkey	24
iVet-5		6





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