

5<sup>th</sup> European Myeloma Network Meeting

**EMN**

**Joint EMN-HARMONY session :**  
**Data-driven research in Multiple Myeloma**

**Prof. Pieter Sonneveld**  
EMN president  
EHA SWG on Multiple Myeloma Chair,  
HARMONY Alliance Foundation Advisory Board Member

Turin  
April 18-20, 2024  
Lingotto Conference Center

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**Big Data innovations can support hematologists in selecting the best treatment for Myeloma patients.**

EMN2024 | Turin | Italy

**EMN**

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## Joint EMN-HARMONY session: Data-driven research in Multiple Myeloma


**Program overview**

Introduction and Chair: **Pieter Sonneveld**  
EMN, EHA SWG on Multiple Myeloma, HARMONY Alliance Partner & Foundation Advisory Board Member

<p><b>Early disease progression and long-term survival</b> <b>Elias K. Mai</b> Heidelberg University Hospital HARMONY Alliance Partner</p>	<p><b>Enhancing Multiple Myeloma Risk Stratification through Machine Learning Integration</b> <b>Adrián Mosquera Orgueira</b> University Hospital of Santiago de Compostela HARMONY Alliance Partner</p>	<p><b>Synthetic data for accelerating translational research and clinical application</b> <b>Gastone Castellani</b> University of Bologna HARMONY Alliance Partner</p>
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## European Public-Private Partnership for big data in hematology

**Leverage big data to accelerate blood cancer research**

 <p>Community of 500+ experts: 128 Partners, including Academic Institutions, medical associations, HTA agencies, regulators, data scientists, Patient Organizations and Pharma Companies.</p>	 <p>Data Providers from 34 countries</p>	 <p>33+ Collaborative research projects addressing key research questions. Numerous multi-stakeholder, communications and dissemination projects.</p>	 <p>EU funding: 2017 – 2024</p> 
 <p>Data-driven research infrastructure: robust Big Data Platform, GDPR-compliant data life cycle, integrated data services, visualization and prediction tools.</p>	 <p>Data lake 179,000+ data sets AML, ALL, APL, CLL, CML, MDS, MM, MPN, NHL, HL, WM. Open for all blood cancers.</p>	 <p>+100 Databases harmonized to OMOP common data model</p>	 <p>New legal status in 2024: non-profit research foundation. Transition phase for governance, staffing, operations and agreements.</p>

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## The importance of continued data-driven collaborations to further transform clinical and scientific research

### Goal

- Offer the largest globally available and continuously updated datalake in hematologic malignancies capturing high quality clinical data (including therapeutic response), molecular data, genomic data as well as real world evidence, in a harmonized and GDPR compliant manner.

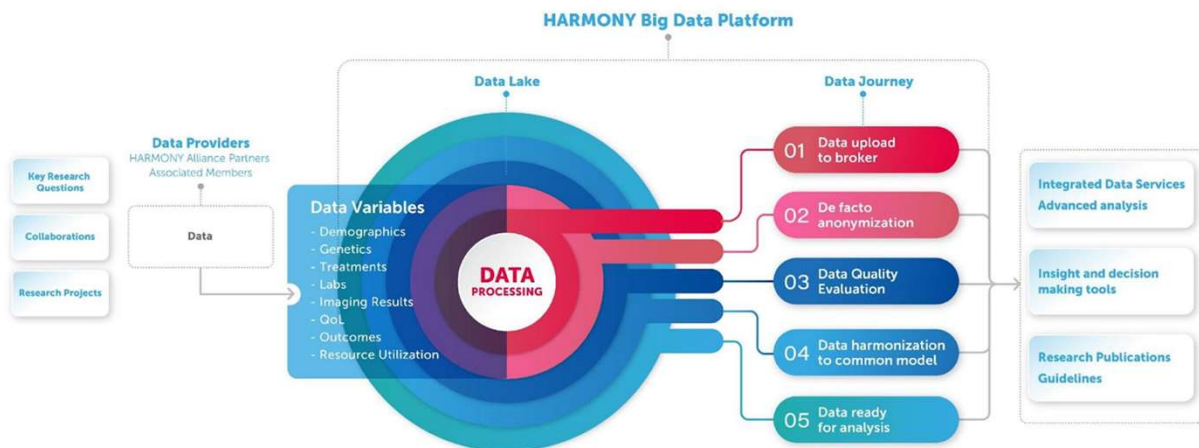
### Value proposition

- Aim at new indications and regular, prospective data accrual
- Define new and precise stratification tools
- Enable personalized treatments and better outcomes for the patients
- Generate quasi real-time monitoring of therapy choices in HM across Europe
- Be a self-financing entity to ensure continuous accrual of high-quality and high-density data on HMs

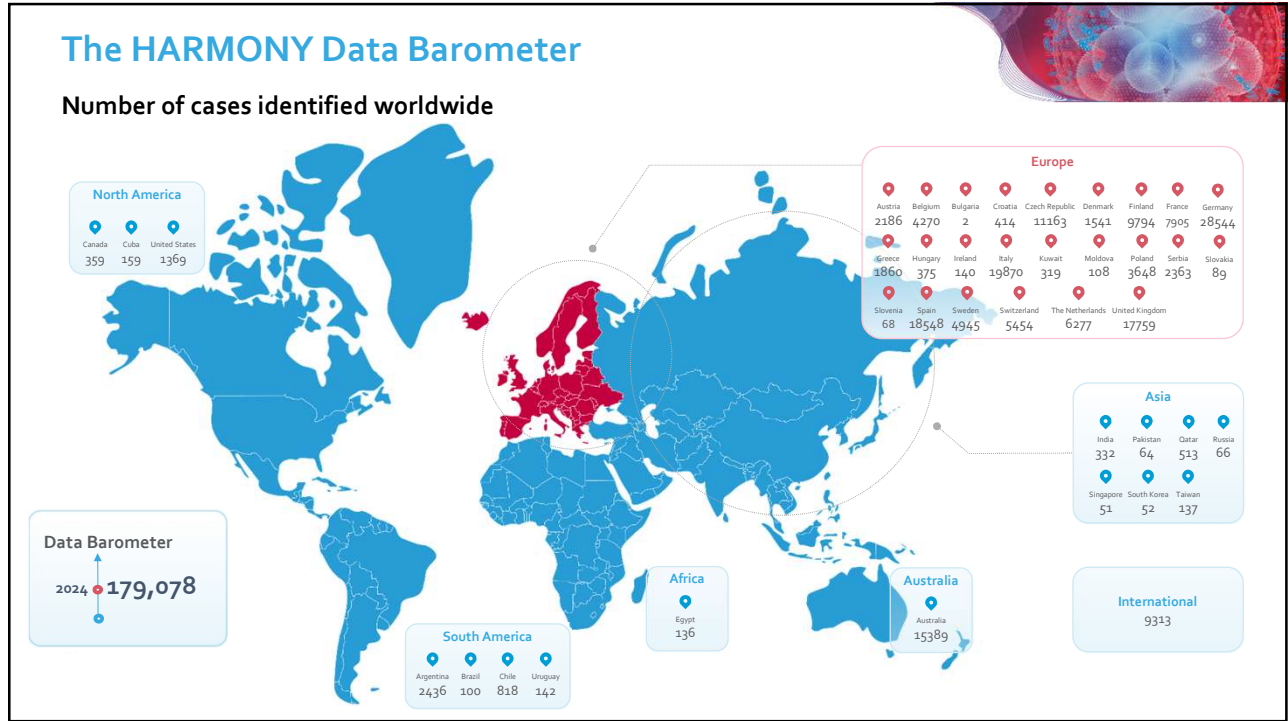
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## The HARMONY Big data Platform

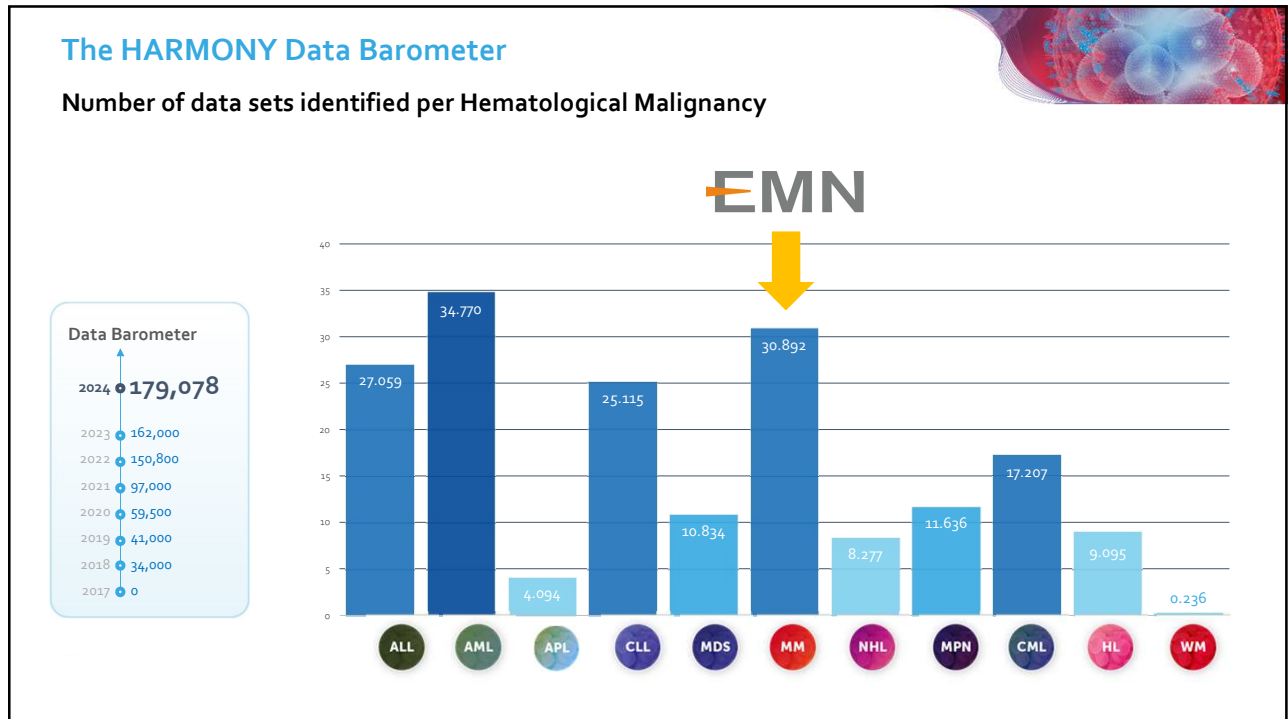
A GDPR-compliant data transfer and processing environment



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## Data-innovation in MM: Converting (big)data into insights

**Journal of Clinical Oncology**  
An American Society of Clinical Oncology Journal

OPEN ACCESS | ORIGINAL REPORTS | May 23, 2022

### Second Revision of the International Staging System (R2-ISS) for Overall Survival in Multiple Myeloma: A European Myeloma Network (EMN) Report Within the HARMONY Project

Authors: Mattia D'Agostino, MD, David A. Cairns, PhD, Juan José Lahuerta, MD, PhD, Ruth Wester, MD, Uta Bertsch, MD, Anders Waage, MD, PhD, Elena Zamagni, MD, PhD, and Pieter Sonneveld, MD, PhD

Publication: Journal of Clinical Oncology • Volume 40, Number 29 • <https://doi.org/10.1200/JCO.21.02614>

### Leukemia

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nature > leukemia > articles > article

Article | Open access | Published: 07 December 2023

MULTIPLE MYELOMA, GAMMOPATHIES

#### Predictors of early morbidity and mortality in newly diagnosed multiple myeloma: data from five randomized, controlled, phase III trials in 3700 patients

Elias K. Mai, Thomas Hielscher, Uta Bertsch, Hans J. Salwender, Sonja Zweggman, Marc S. Baay, Markus Munder, Lucia Pantani, Katia Mancuso, Peter Brossart, Meral Beksac, Igor W. Blau, Jan Dürig, Britta Besemer, Roland Fenk, Peter Reimer, Bronno van der Holt, Mathias Hänel, Ivana von Metzler, Ulrich Graeven, Carsten Müller-Tidow, Mario Boccadoro, Christof Scheid, Meletios A. Dimopoulos, Hartmut Goldschmidt

Leukemia 38: 640-647 (2024) | Cite this article

2 new sub-projects running

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## Data-innovation in MM: Converting data into insights

### Data exploration tool

**HARMONY ALLIANCE**

**15.620 MM Patients**

Cohort A

#### ISS

ISS_III	29%
ISS_II	40%
ISS_I	31%

#### Auto Transplant

Yes	79.5%
No	20.5%

#### ISS vs R2-ISS

ISS	Low	Low-Interm...	Intermediat...	High
ISS_I	99.0%	24.9%	9.0%	9.1%
ISS_II		63.2%	33.9%	2.9%
ISS_III			88.3%	11.7%

#### R2-ISS

High	4%
Intermediate-High	40%
Low-Intermediate	34%
Low	22%

#### Cytogenetic Aberrations

Del(13q)	45.7%
t(11;14)	14.2%
Del(1p)	11.7%
t(4;14)	8.2%
Del(17p)	7.1%
t(14;18)	2.0%

#### Summary Table

Name	Descriptive
Age	68.0 [18, 108]
Gender	
Female	5030 (44.4%)
Male	8084 (55.6%)
Albumin	3.7 [3.2, 4.28]
Beta2	3.7 [2.6, 5.70]
ECOG Status	
Grade 0	4922 (38.0%)
Grade 1	5296 (41)
Grade 2	1897 (15)
Grade 3	443 (3.5)
Grade 4	69 (0.5%)
Grade 5	2 (0.0%)

#### Age diagnosis vs gender

#### Age and ISS category

#### MM subtype

IgG kappa	47.2%
IgG lambda	14.7%
IgA kappa	10.8%
IgA lambda	7.0%
others	1.3%
IgD lambda	0.5%
IgD kappa	0.2%

[www.harmony-alliance.eu/tools](http://www.harmony-alliance.eu/tools)  
Already available for AML and ALL.  
Soon available for Multiple Myeloma.

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 [www.harmony-alliance.eu](http://www.harmony-alliance.eu)  
[www.bigdataforbloodcancer.eu](http://www.bigdataforbloodcancer.eu)

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#bigdataforbloodcancer

 HARMONY Alliance  
Public-Private Partnership  
for Big Data in Hematology

 Big Data for Blood Cancer

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[e.dewaal@ehaweb.org](mailto:e.dewaal@ehaweb.org)

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