

SEMMELWEIS UNIVERSITY

Budapest, Hungary

excellence in education, research and innovations



SEMMELWEIS UNIVERSITY

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Brief history



1769 Foundation of the University

1983 German-language instruction is introduced

1989 English-language instruction is introduced

2000 The integration of Faculty of Health Sciences and the university is renamed Semmelweis University.

2010 The Faculty of Health and Public Services is established, becoming Semmelweis University's fifth faculty.

2017 The integration of Pető András Faculty (world-wide recognized Pető-method of conductive education)



Three-fold mission: education, research and innovations, health care

Semmelweis University is the **flagship** of **medical, pharmacy, and health sciences education** in Hungary and in the Central-Eastern European region:

- **11,000 students**
- Approximately **30% (3,800) international students** from 74 countries, 5 continents
- more than **8,300 employees**
- nearly **1,700 researchers and teachers**
- **300 research groups**
- more than **4,500 physicians and health professionals**
- one of the largest patient care institutions in Hungary
- **4 clinical blocks** and nearly **40 professional units**
- **200,000** outpatients and **10,500** inpatients monthly
- **International off-campus** educational programs in Hamburg, **Germany**; Bratislava, **Slovakia**; Lugano, **Switzerland**



Education: undergraduate students

- Total enrollment: **ca. 11,000**
- **ca. 3,800** of these are foreign students
- **Six faculties:**
 1. Medicine
 2. Dentistry
 3. Pharmacy
 4. Health Sciences
 5. Health and Public Services
 6. Conductive Education
- **Instruction takes place in three languages: Hungarian, English and German**
- Diplomas granted (varies by faculty): B.Sc., M.Sc., M.D., D.M.D., Pharm.D., Ph.D.
- **In Hungary 70%** of dentists, **50%** of pharmacists, **42%** of doctors, **27%** of health care professionals are Semmelweis University graduates.



Education: international students

- International students make up **30.5%** of the student population.
- They come from **74** countries around the world.

The **top 10** countries of origin are:

1. Germany (985)
2. Norway (319)
3. Iran (248)
4. Italy (208)
5. Israel (158)
6. Slovakia (93)
7. Spain (98)
8. Sweden (82)
9. Japan (80)
10. United Kingdom (72)



Education: off-campus programs

Among the first European higher educational institutions we introduced binational programs to allow **primarily foreign students to follow the Semmelweis curriculum.**

Main characteristics:

1. **Education takes place abroad at the partner's facilities**
2. Teaching is conducted in accordance with Semmelweis University's academic and professional requirements
3. Upon successful completion of the programme, students receive a Semmelweis University diploma

Locations of our programs include:

1. Medical training in **Germany**
2. Physiotherapist training in **Switzerland**
3. MSc in Health Care Management in **Slovakia**
4. Conductive Education in **Romania**



Education: schools of PhD Studies

- Currently Semmelweis University has **8 Doctoral Schools**:
 1. **Basic and Translational Medicine**
 2. Doctoral School of **Clinical Medicine**
 3. Doctoral School of **Pharmaceutical Sciences**
 4. Doctoral School of **Mental Health Sciences**
 5. János Szentágothai Doctoral School of **Neurosciences**
 6. Doctoral School of **Molecular Medicine**
 7. Doctoral School of **Pathological Sciences**
- Total number of **programs: 43**, total number of active **tutors: 264**
- The activity of the School of PhD is **divided into two parts**:
 - **Phase I: educational phase (48 months)** - program courses and research activity to train students to **become scientists**
 - **Phase II: qualification phase** – writing and defending dissertations **to evaluate the results of the experiments and to publish them** in acknowledged scientific journals.





Semmelweis Students' Scientific Association

Talent – Possibility - „TDK”

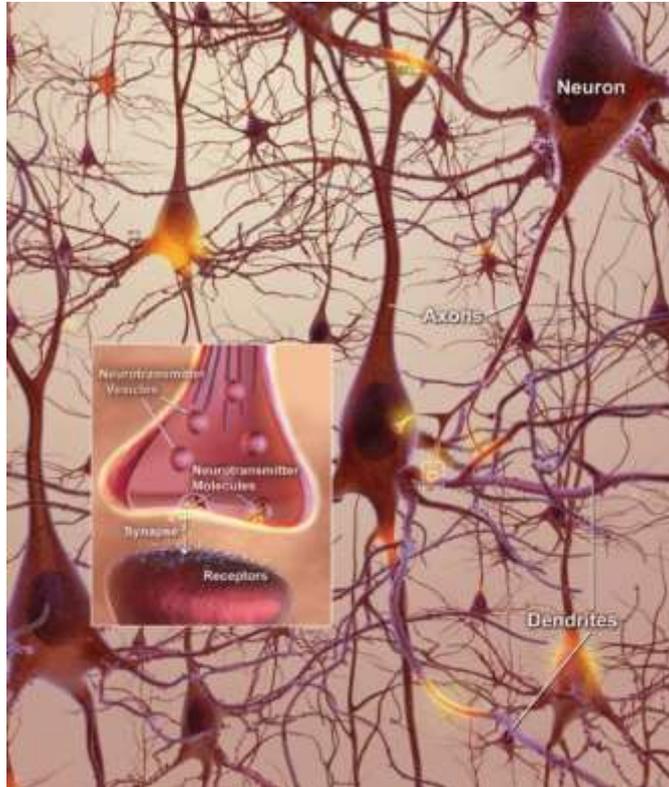
- More than 1000 students (Hungarian/German/English fact.)
- 71 internal research centers
- 12 external research centers (supervisor-level: Ph.D, as a minimum)

Main events:

- Semmelweis Students' Scientific Conference: cca.360 lecturers, 35 different sections
- Semmelweis International Students' Conference: cca. 60 lecturers
- *Practical part of the Conference:*
Three different Practical Competitions year-to-year: Surgery, Dentistry, Pharma
- National Scientific Students' Associations Conference, every two years



Research: main focuses



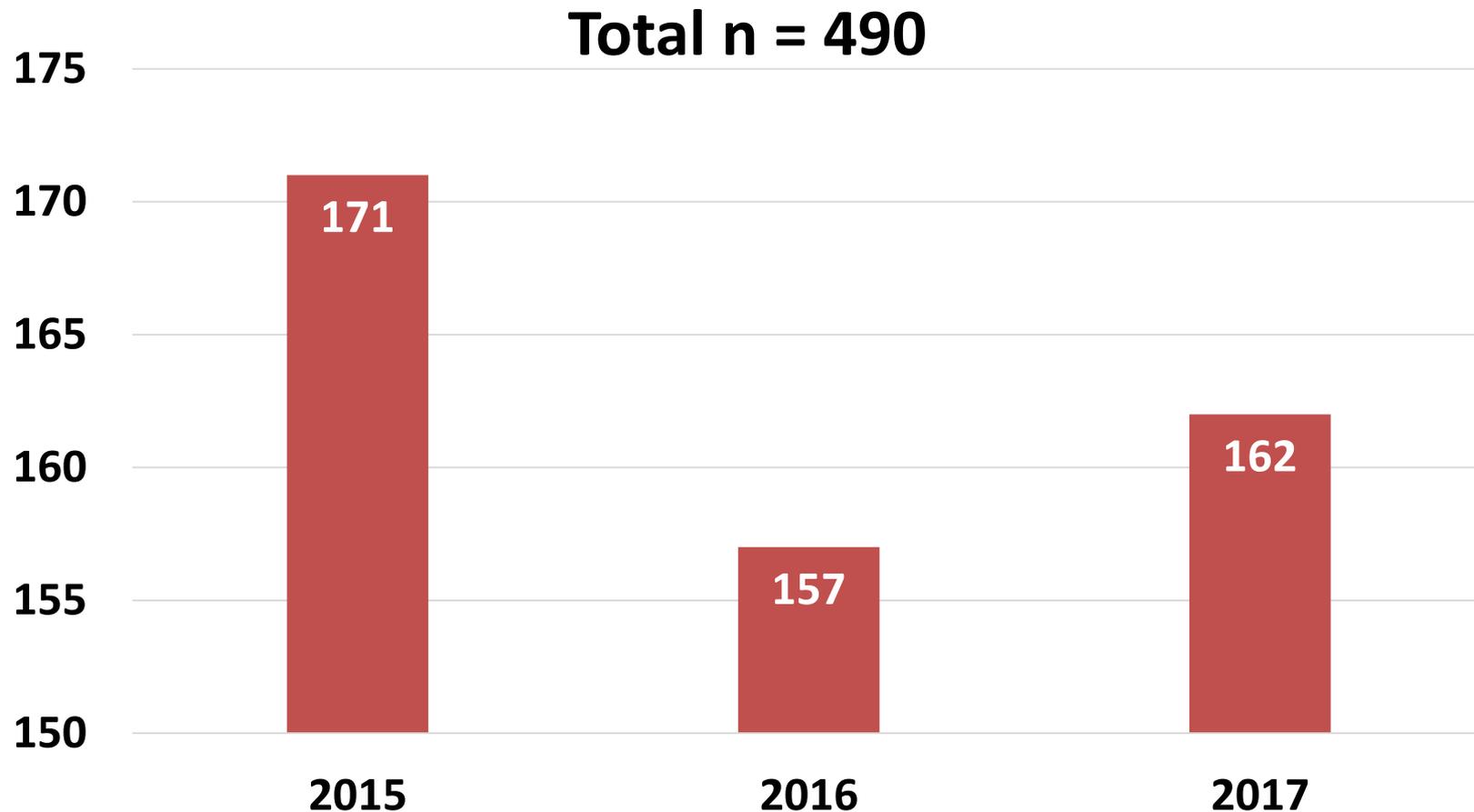
- Molecular biology
- Cardiovascular disorders
- Central nervous system disorders
- Oncology
- Bioimaging
- Biotechnology
- Digital biomarkers
- Pharmaceutical research and development
- Clinical trials

Translational research bases

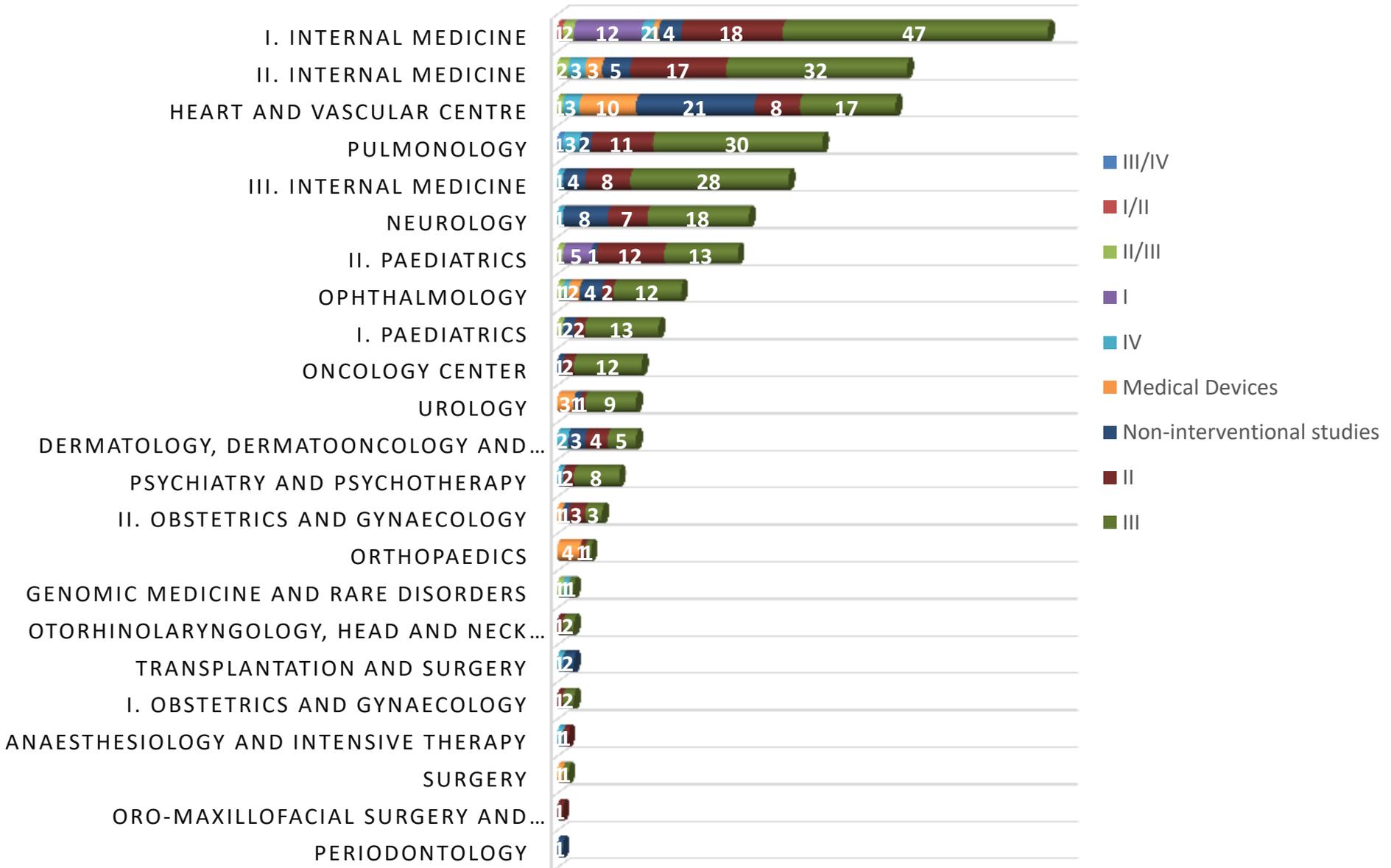
- Over **1,000** professionals in more than **300** research groups
- Nearly **2200 publications** as of 2017, with a total impact factor of **4433**
- **Our clinical capacity:**
 - over **8,000** employees
 - 4500 physicians and healthcare professionals
 - **6%** of Hungary's total health care needs
 - **two million** patients annually
 - **40** University institutes and clinical departments
 - more than **2,100** beds for acute and chronic cases
- **Monthly breakdown:**
 - **200,000** out-patients
 - **12,000** in-patients



Clinical research: number of clinical trials 2015-2017

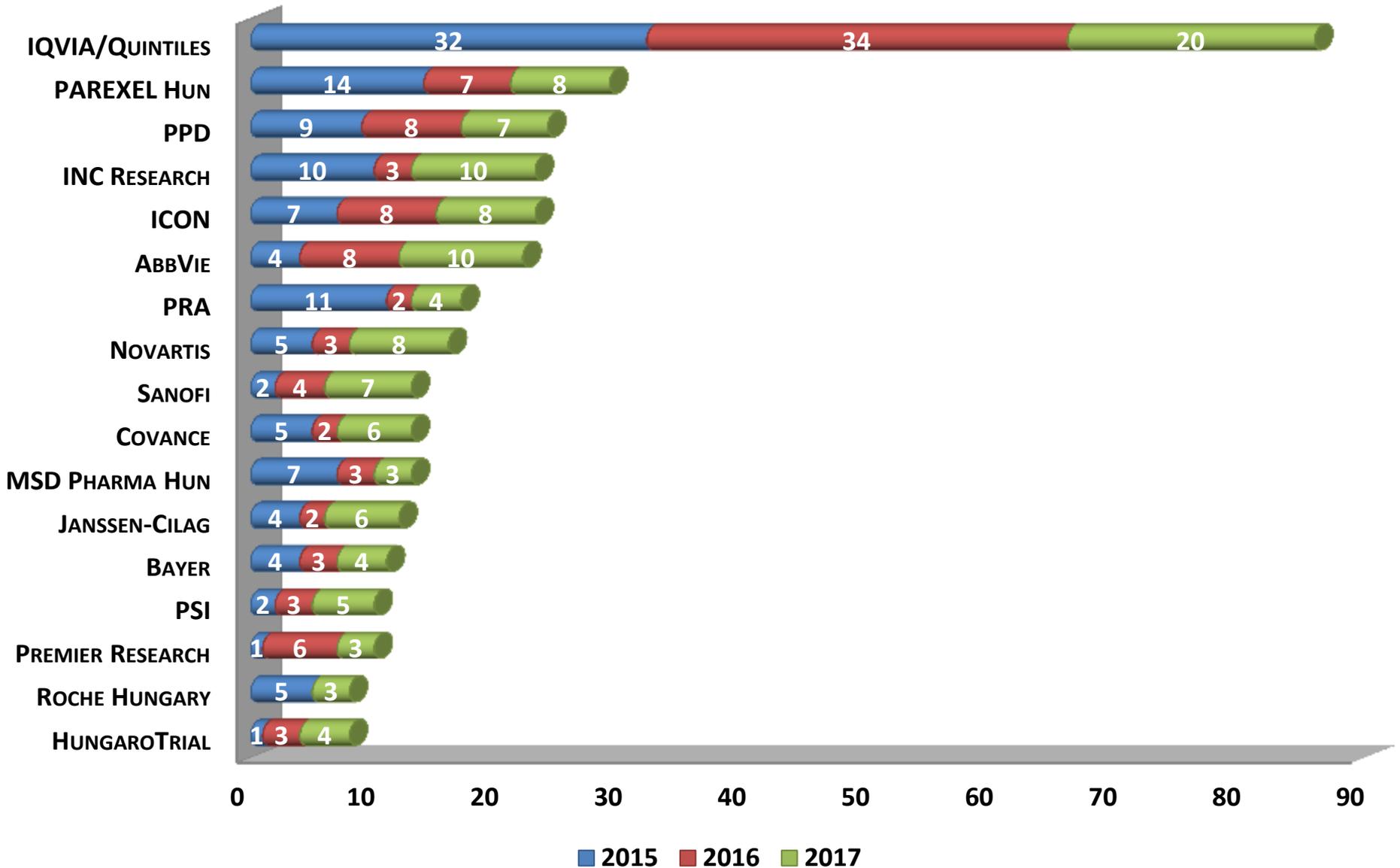


Clinical trials: phases by department



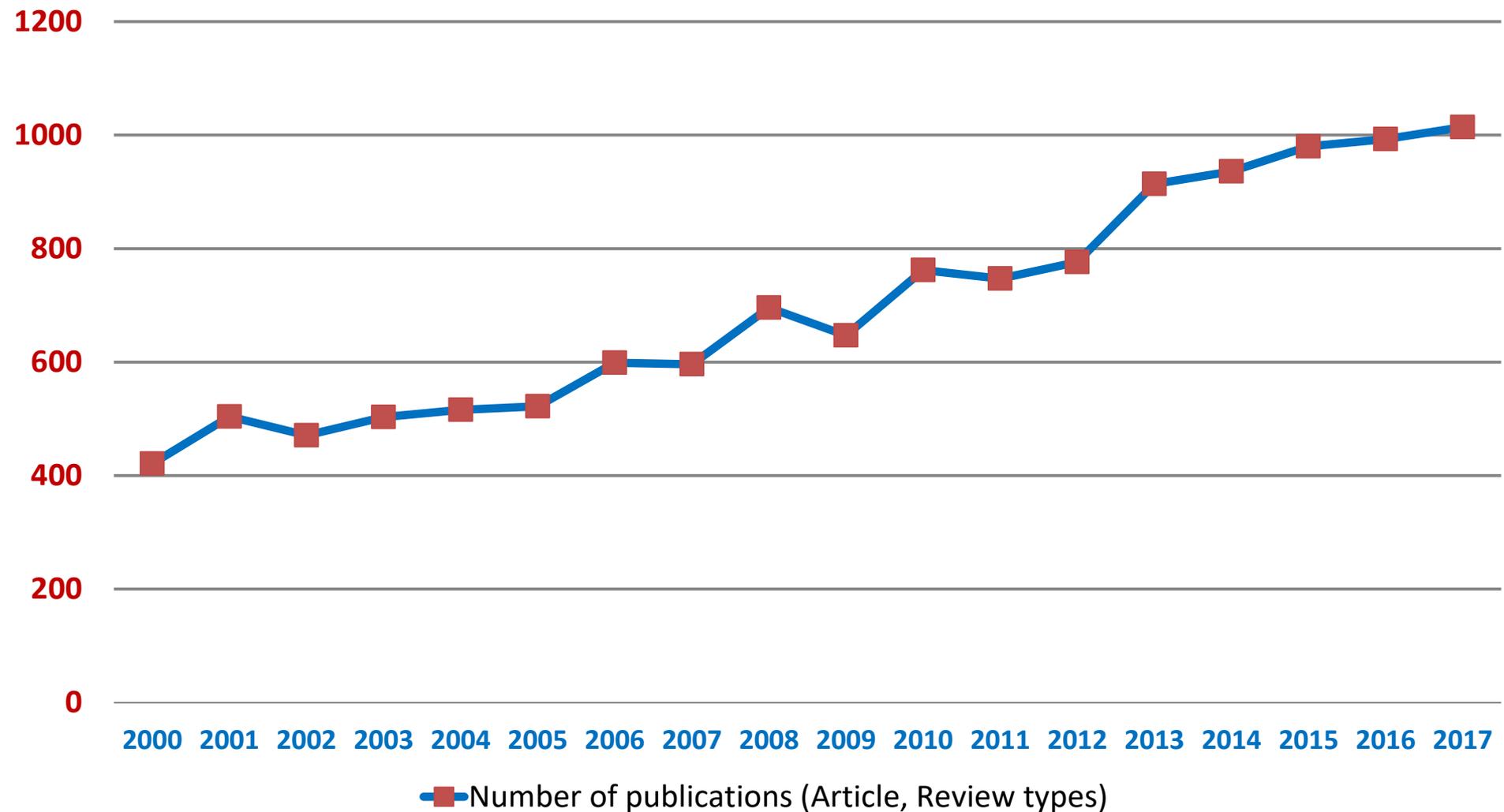
Clinical trials:

Privileged partners: Quintiles/IQVIA, Parexel, Abbvie



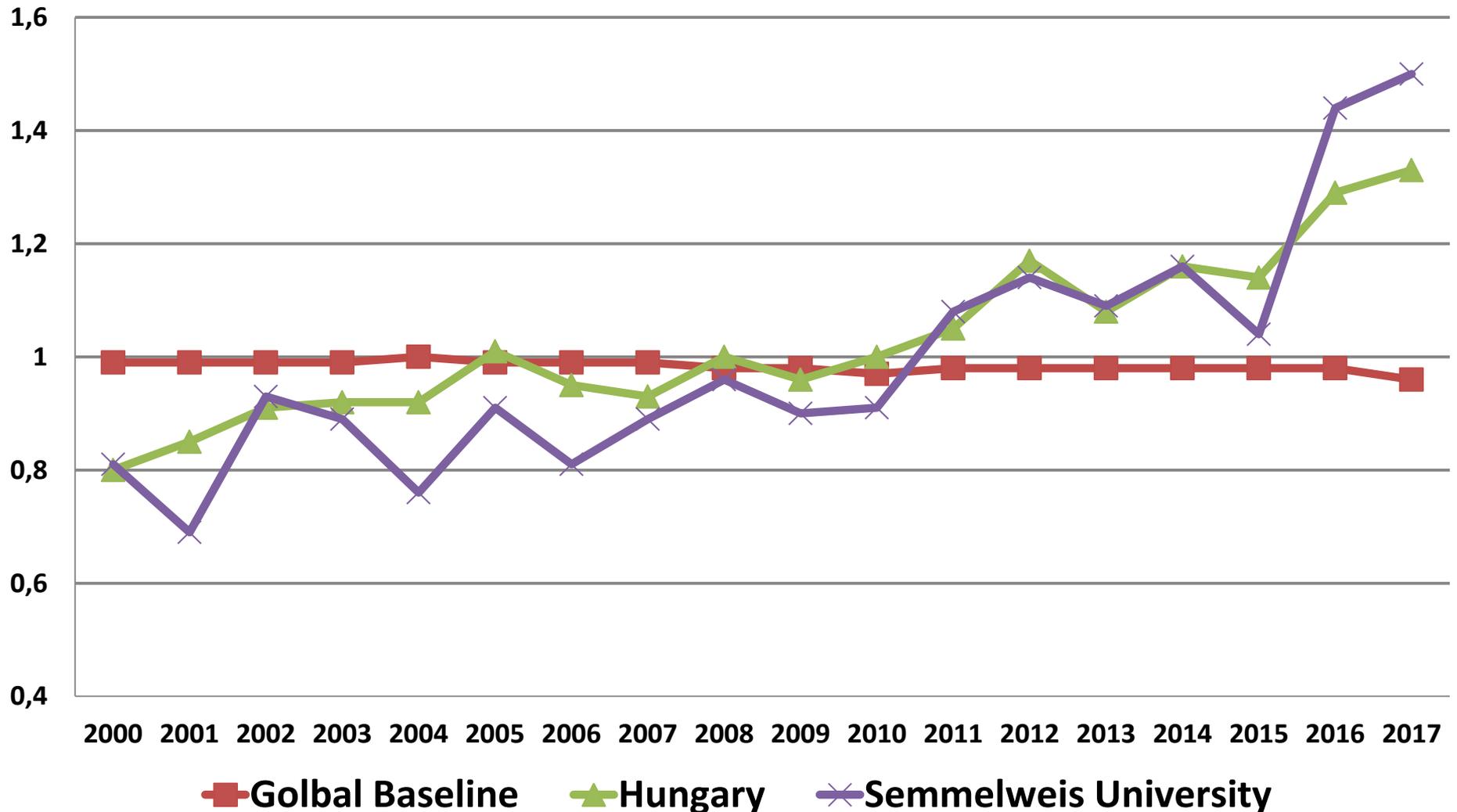
Publications: increasing output

Number of publications (Article, Review) indexed in Web of Science
2000-2017



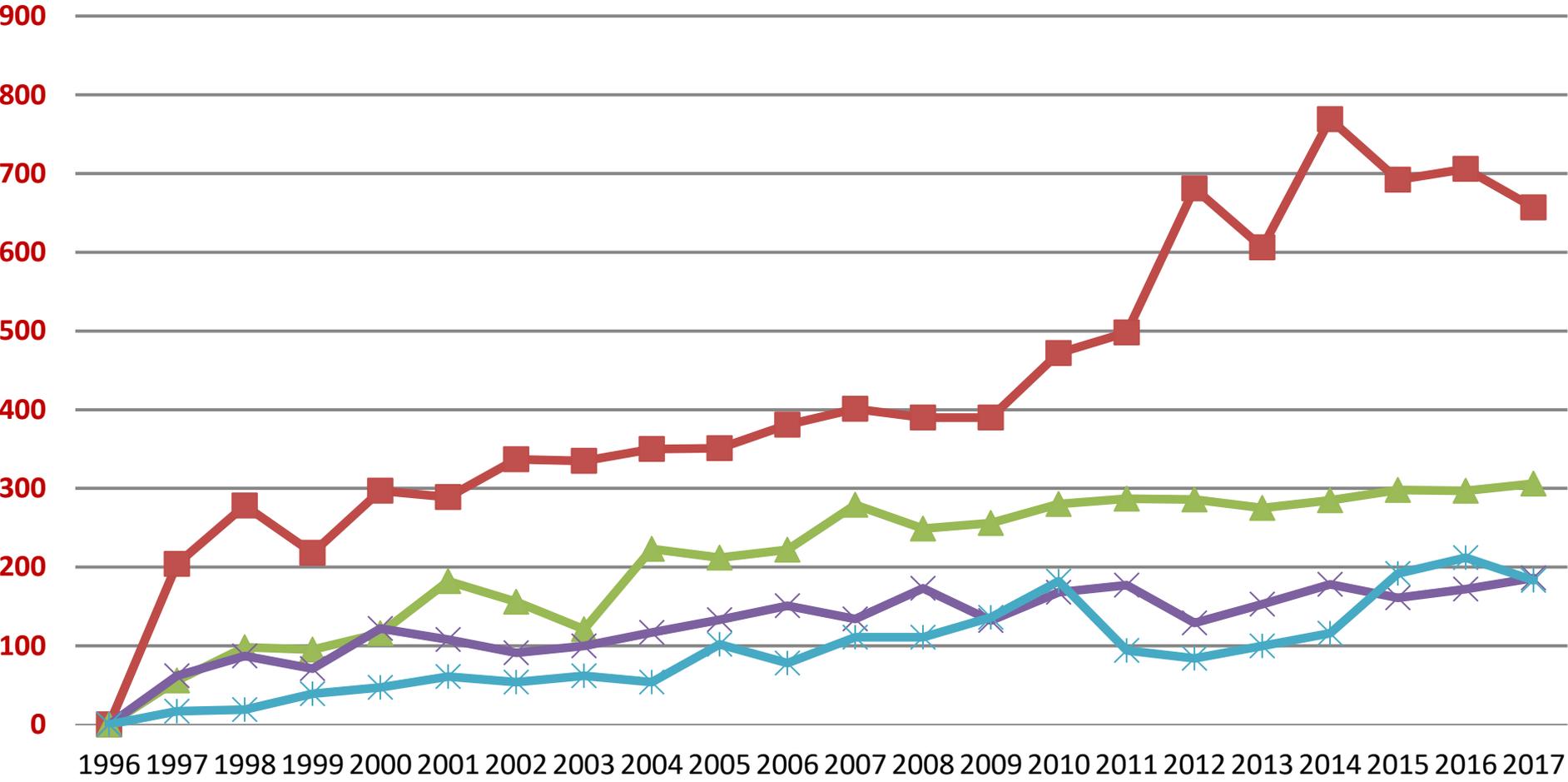
Publications: increasing impact

Normalized Citation Impact per Year



Publications: increasing quality

Number of documents published in Q1-Q4 journals 1996-2017



■ Documents in Q1 Journals ▲ Documents in Q2 Journals
✕ Documents in Q3 Journals ✕ Documents in Q4 Journals

International rankings – leader of the Central-Eastern European Region

Semmelweis University is in **the first 2.5%** among the 28,000 universities of the world.

▪ Global Rankings:

- Times Higher Education 2017/18: **401-500**

▪ Subject Rankings:

- QS World University Rankings by Pharmacy & Pharmacology 2017: **101-150**
- QS World University Rankings by Medicine 2018: **151-200**.
- QS World University Rankings by Life Sciences and Medicine 2017: **242**
- Shanghai Ranking's Global Ranking of Academic Subjects 2018 - Clinical Medicine: **201-300**
- Shanghai Ranking's Global Ranking of Academic Subjects 2018 - Medical Technology: **201-300**

- The only Hungarian institution on the list of the **top 200 most international** universities in the world: **102**



Services of Grant and Project Management – Success Stories

Cumulative data of grant's activity

NUMBER OF PROPOSALS (01/01/2017-31/05/2018)			
	NATIONAL	CO-FINANCED	INTERNATIONAL
SUBMITTED	631	15	44
GRANTED	123	8	13
UNDER IMPLEMENTATION	60	19	35

REVENUES FROM GRANTS		
	2017	TILL 31/05/2018
NATIONAL	2 046 807 133 HUF	69 654 500 HUF
CO-FINANCED	3 704 414 005 HUF	830 902 653 HUF
INTERNATIONAL	266 374 310 HUF	166 493 955 HUF
TOTAL	6 017 595 448 HUF	1 067 051 108 HUF

Achievements of Technology Transfer and Business Development Services

ACTIVITY	ACHIEVEMENTS
Number of filed patents	13
Number of accepted patent filings	11
Number of new patent filings	4
Number of concluded licence agreements	5
Number of concluded material transfer agreements	7
Generated income	23,676,870 HUF
Number of spin-off companies	9

Industrial cooperation



International Relations

Various forms of international collaboration

- Student and staff mobility programmes (**ERASMUS+**)
- Student and staff exchange
- **Joint research** initiatives and collaboration (HCEMM-EMBL, CELSA)
- **Membership** in international organisations
- Organisation of and participation in **international scientific conferences**
- Our international scientific events:
Semmelweis Symposium, Semmelweis Budapest Award

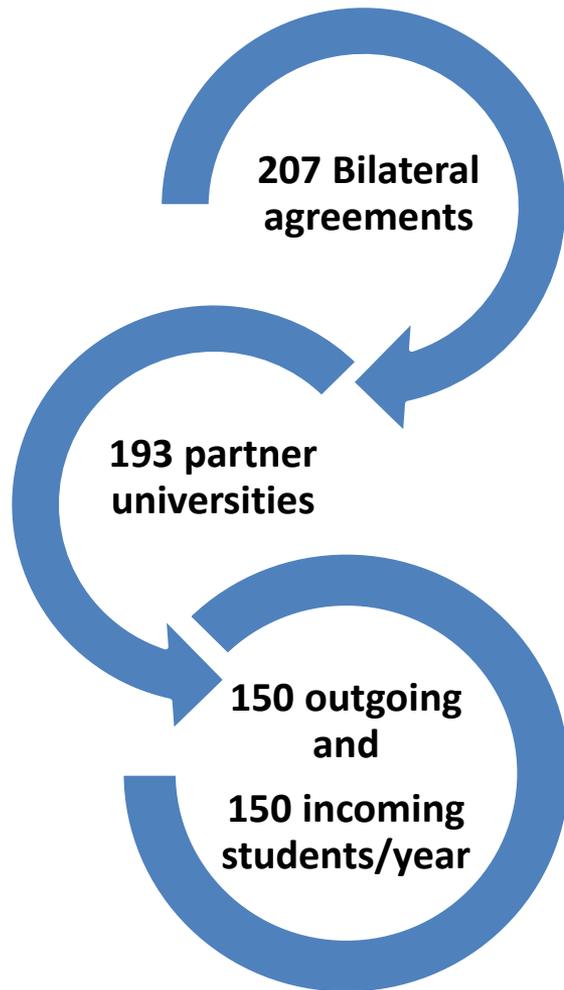


Facts and figures

- Signed international agreements: **25** (2017/2018)
- **34** visiting delegations (2017)
- **42** official visits of leaders to international partners (2017)
- **hundreds** of visiting professors and researchers/year



International Relations: Erasmus+ program



A world map with three callout boxes. The North American callout (red pin) is on the left, the European callout (blue pin) is in the center, and the Asian callout (yellow pin) is on the right. The map is color-coded by continent: North America (orange), South America (dark red), Europe (brown), Africa (green), and Asia/Australia (blue).

North-American relations

- University at Buffalo
- University of California Davis
- University of Massachusetts
- University of West Georgia
- Rutgers University
- Adventist University

European relations

- Medical University of Vienna
- University of Freiburg
- University of Heidelberg
- KU Leuven
- University of Lubeck
- University of Parma
- L.U.de.S. University of Human Sciences and Technology of Lugano
- Comenius University
- Move&Walk Institute, Göteborg
- La Famille Institute, Brussels

Asian relations

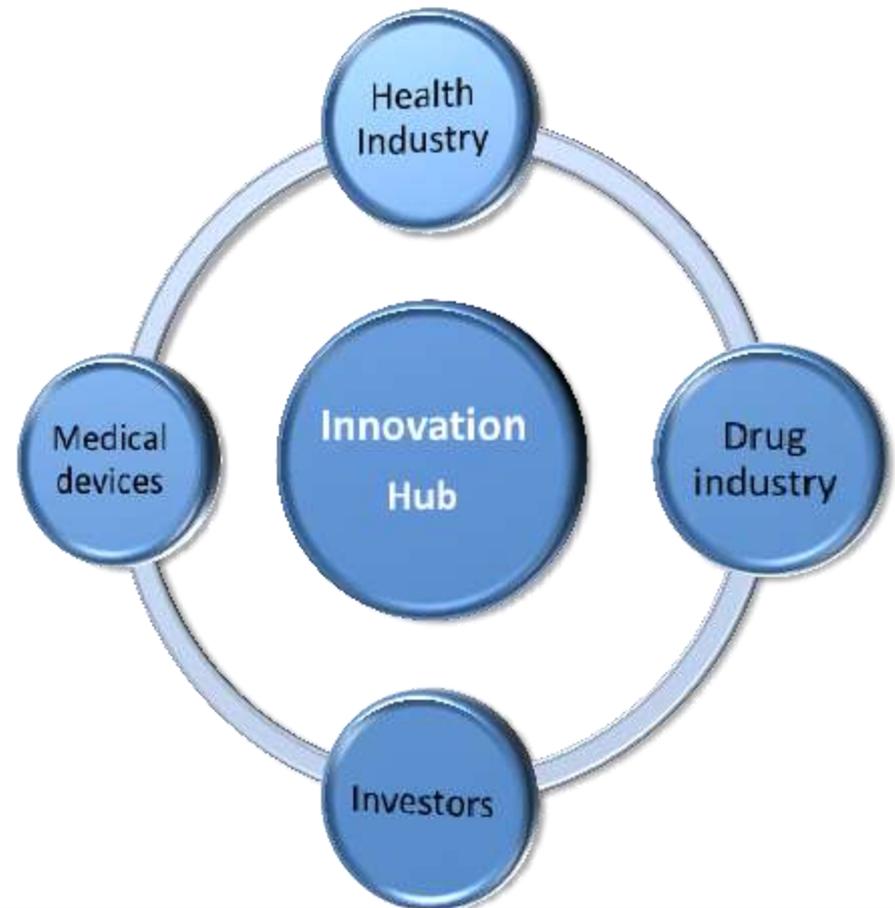
- Seoul National University
- Saitama Medical University
- Japanese Society of Pathology
- Tokyo Medical University
- Osaka Dental University
- Shanghai Jiao Tong University
- Helionjiang University of TCM
- Shanghai University of TCM

Our High Priority Relations Worldwide

Strategic goals

To position our university among the top 100 higher education institutions in international rankings by 2030

- to develop **international partnerships and joint researches**
- to expand cooperation with **industrial partners and SMEs**
- to multiply patents, **spinoffs, startups** related to our university
- to raise **external incomes** from industry, royalties, licensing fees etc.
- to build our **innovation ecosystem** and propagate an inspiring innovation culture
- to further increase the **international visibility** of Semmelweis University
- to strengthen our **leading role** in Central and Eastern Europe



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