

## 5. GLOBAL MARKET TRENDS

In the domain of the so called »red biotechnologies« (i.e. biomedicine, biopharmaceuticals) there are global trends also indicated by the companies in Slovenia towards development of the so called advanced therapies i.e. “omics” in combination with the support of the bioinformatics in areas such as big data management, imaging, sequencing, artificial intelligence, cyber-security.

Another biggest market area for biotech is also chemical industry where R&D expenditure is increasing as well. Similar is the case of agriculture and food production, environment and marine industry.

### Challenges & global market trends in »Red Biotech«

#### Industry trends

#### Societal trends

#### Regulatory trends

Biologics market faces competition from biosimilars and biobetters	Emphasis is on value for patients not on research / Personalized medicine	New models of innovation and new regulations
Enormous risks involved with high investments, higher expectations (9 out of 10 drugs developed fail)	Rapid advances in sciences	Patents on key products are expiring
Prices of big pharma are getting lower	Hyper cycle (existing discoveries are overvalued)	Regulations are more complex and strictly enforced
R&D is getting outsourced	Deeper understanding of molecular biology of disease	
Business models of companies are changing from marketing-oriented to products meaningful in life	New tools for detecting targets are developed	
Costs of drugs are lowering	Ecosystem of healthcare is changing	
Society will determine pricing not companies (changes in pricing models)	Evolution of targeted drugs and nanomedicine	
	Dealing with societal needs such as neurodegenerative diseases, cancer and metabolic disease	
	Rare diseases are easier to manage due to global patient groups and big data analytics	



	Machine learning is utilized for better understanding of genomics and diseases, vaccine design, drug repurposing	
	Informed and active stakeholders are demanding value	