



FKITMCMXIX

# Ljudi i procesi: primjeri održivih inovacija u hrvatskoj farmaceutskoj industriji

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ZAGREB, September 5th 2024.



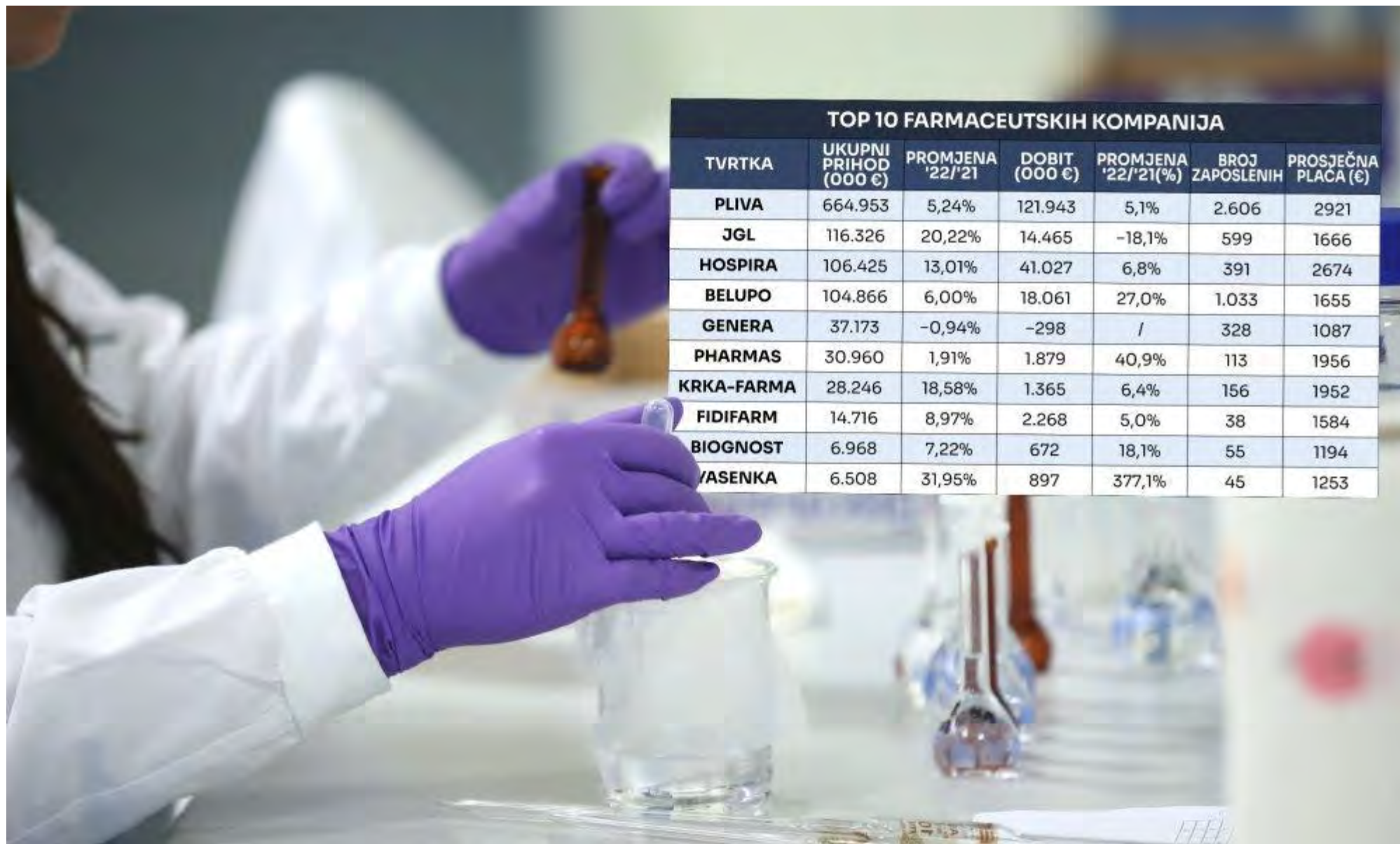
# Farmaceutska industrija u Hrvatskoj:

- Visoko-regulirana industrija
- Industrija dodane vrijednosti
- Izvozno orijentirana
- Značajan i stalan investicijski ciklus
- **Tradicija u HR, know-how i iskustvo radne snage**
  - trend snažnog rasta i značajan utjecaj na proizvodnju cijele industrije
  - 50 poduzeća (DZS, 2022.)
  - 6.045 zaposlenih u farmaceutskoj industriji (DZS, 2022.)
  - 2.370 € prosječna bruto plaća (DZS, 2023.)

## Poznata i neka novija imena:

- PLIVA/TEVA
- JGL
- HOSPIRA
- PharmaS
- Xellia
- KRKA Pharma















Srpanj, 2023:  
Ovo su  
vodeće  
farmaceutsk  
e tvrtke, u  
jednoj  
prosječna  
plaća gotovo  
3.000 eura -  
tportal



**TOP 10 FARMACEUTSKIH KOMPANIJA**

TVRTKA	UKUPNI PRIHOD (000 €)	PROMJENA '22/'21	DOBIT (000 €)	PROMJENA '22/'21(%)	BROJ ZAPOSLENIH	PROSJEČNA PLACA (€)
PLIVA	664.953	5,24%	121.943	5,1%	2.606	2921
JGL	116.326	20,22%	14.465	-18,1%	599	1666
HOSPIRA	106.425	13,01%	41.027	6,8%	391	2674
BELUPO	104.866	6,00%	18.061	27,0%	1.033	1655
GENERA	37.173	-0,94%	-298	/	328	1087
PHARMAS	30.960	1,91%	1.879	40,9%	113	1956
KRKA-FARMA	28.246	18,58%	1.365	6,4%	156	1952
FIDIFARM	14.716	8,97%	2.268	5,0%	38	1584
BIOGNOST	6.968	7,22%	672	18,1%	55	1194
YASENKA	6.508	31,95%	897	377,1%	45	1253

„Neki novi  
klinci” +  
nedostatak  
ljudi na  
tržištu

Talking a different language					
<b>Formative experiences</b>	<b>Maturists</b> (pre-1945) Wartime rationing Rock'n'roll Nuclear families Defined gender roles - particularly for women 	<b>Baby boomers</b> (1945-1960) Cold War 'Swinging Sixties' Moon landings Youth culture Woodstock Family-orientated 	<b>Generation X</b> (1961-1980) Fall of Berlin Wall Reagan/Gorbachev/ Thatcherism Live Aid Early mobile technology Divorce rate rises 	<b>Generation Y</b> (1981-1995) 9/11 terrorists attacks Social media Invasion of Iraq Reality TV Google Earth 	<b>Generation Z</b> (Born after 1995) Economic downturn Global warming Mobile devices Cloud computing Wiki-leaks 
<b>Percentage in UK workforce</b>	3%	33%	35%	29%	Employed in either part-time jobs or apprenticeships
<b>Attitude toward career</b>	Jobs for life 	Organisational - careers are defined by employees	"Portfolio" careers - loyal to profession, not to employer	Digital entrepreneurs - work "with" organisations	Multitaskers - will move seamlessly between organisations and "pop-up" businesses
<b>Signature product</b>	Automobile 	Television 	Personal computer 	Tablet/smartphone 	Google glass, 3-D printing
<b>Communication media</b>	Formal letter 	Telephone 	E-mail and text message 	Text or social media 	Hand-held communication devices
<b>Preference when making financial decisions</b>	Face-to-face meetings	Face-to-face ideally but increasingly will go online	Online - would prefer face-to-face if time permitting	Face-to-face	Solutions will be digitally crowd-sourced

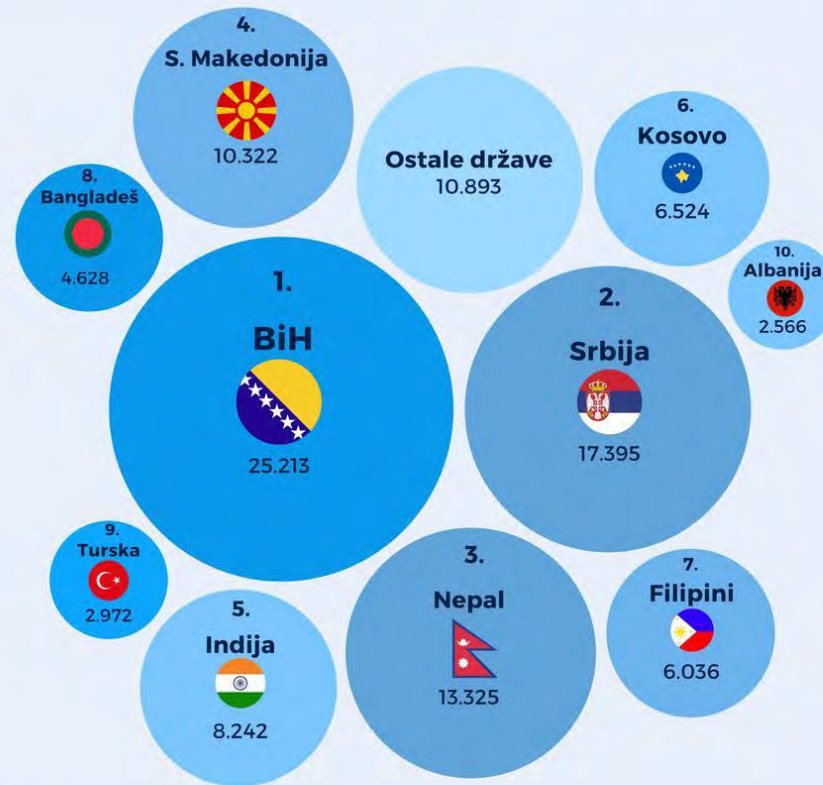
Source: Barclays, University of Liverpool

Integracija...

# STRANI RADNICI U HRVATSKOJ

01.01.-31.7.2023.

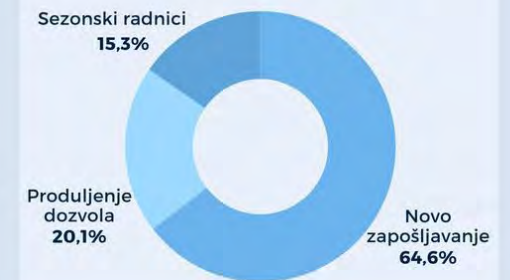
## Izdane dozvole za boravak i rad prema državljanstvu prijavitelja



## Djelatnosti za koje je izdano najviše dozvola

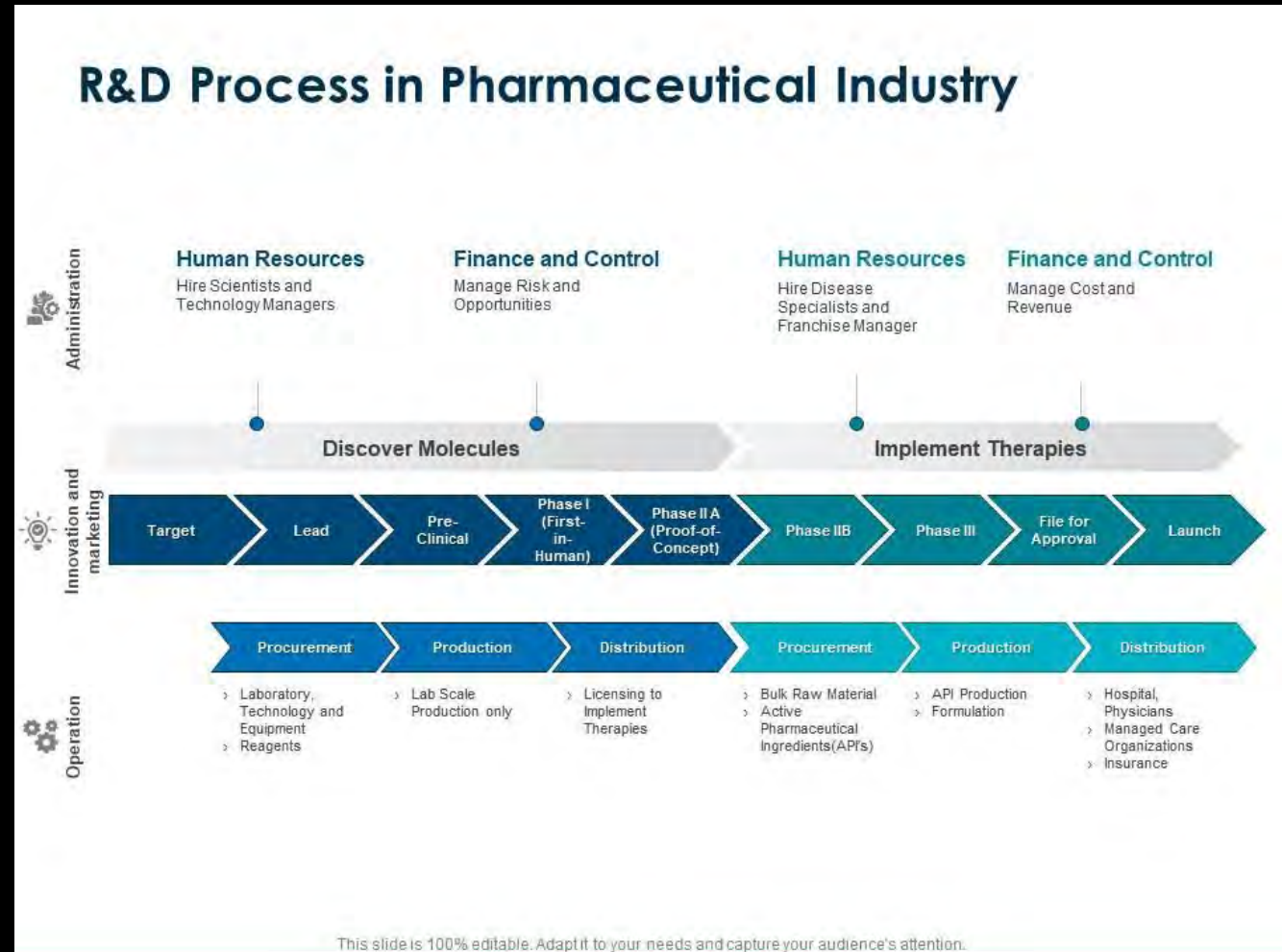


## Struktura izdanih dozvola za boravak i rad

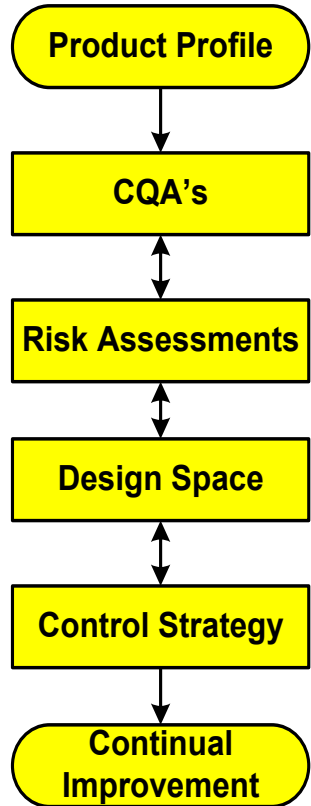


# Pharmaceutical Industry INOVATION:

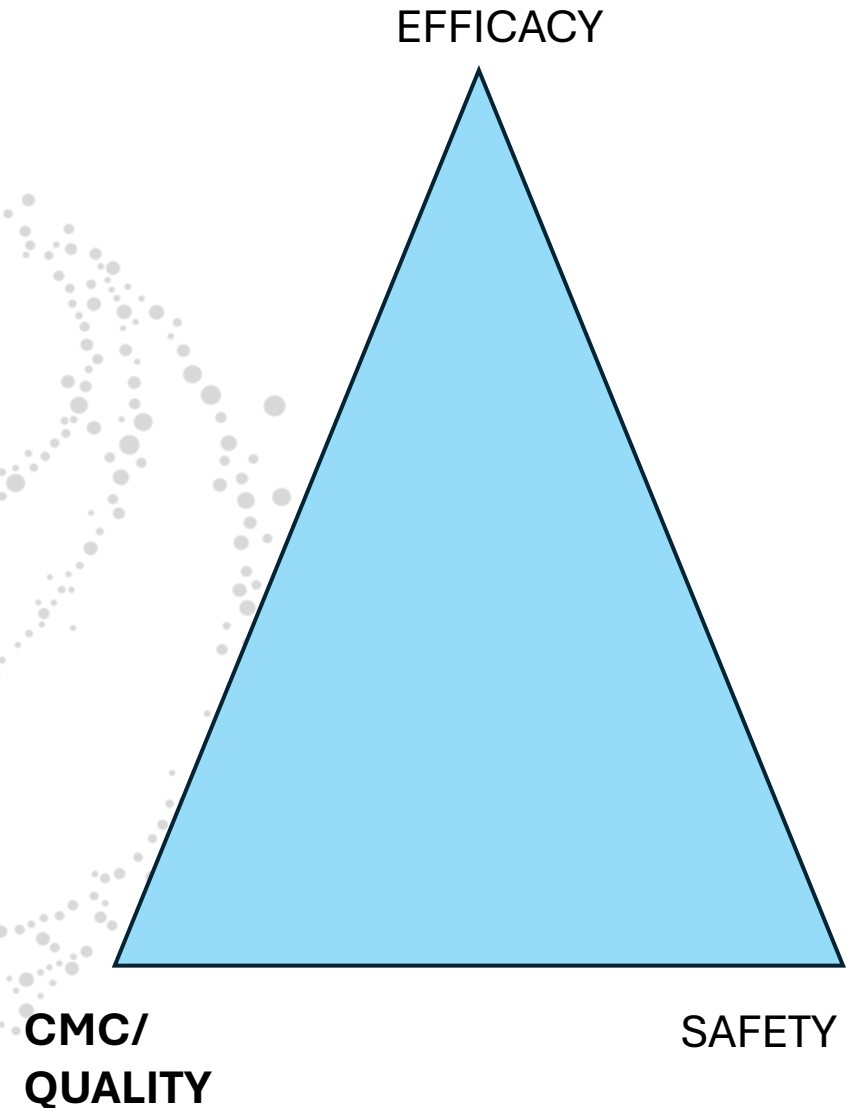
- **Braak Through Innovations**
  - **NME/NBE**
  - **New MoA**
  - **New Platform Technologies**
- **Re-Innovation**
  - **Significant Improvment of existing therapies**
- **Continious Improvements**
  - **Always on Innovation: Product/Process/Materilas/Equipme nt**



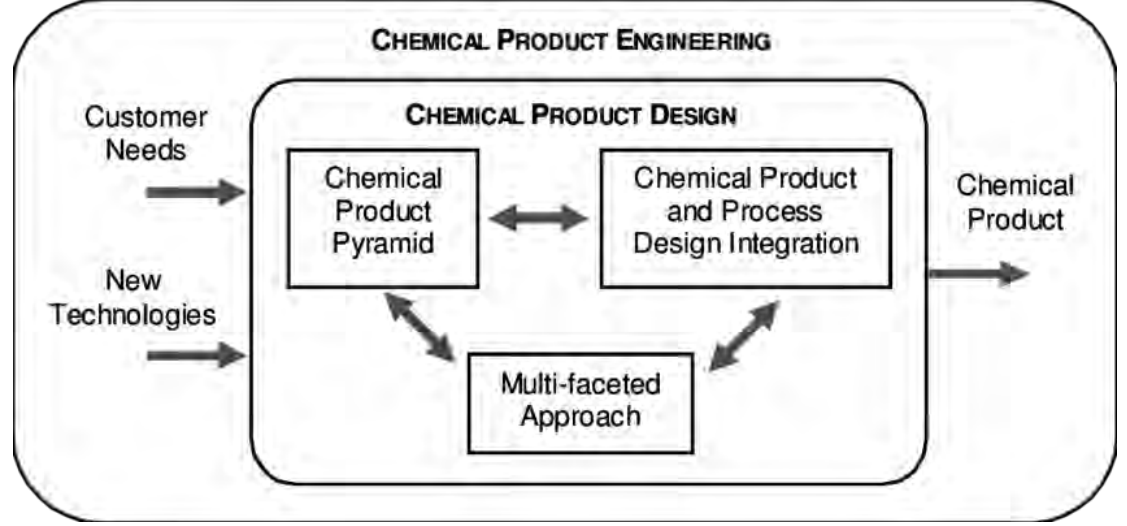
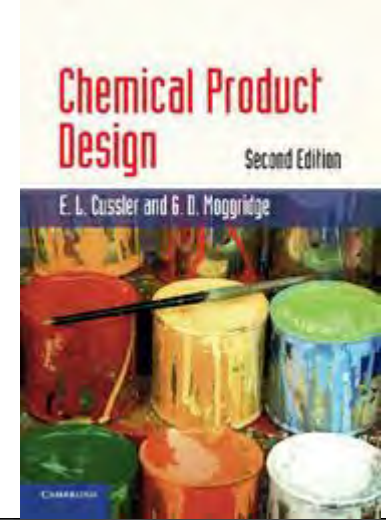
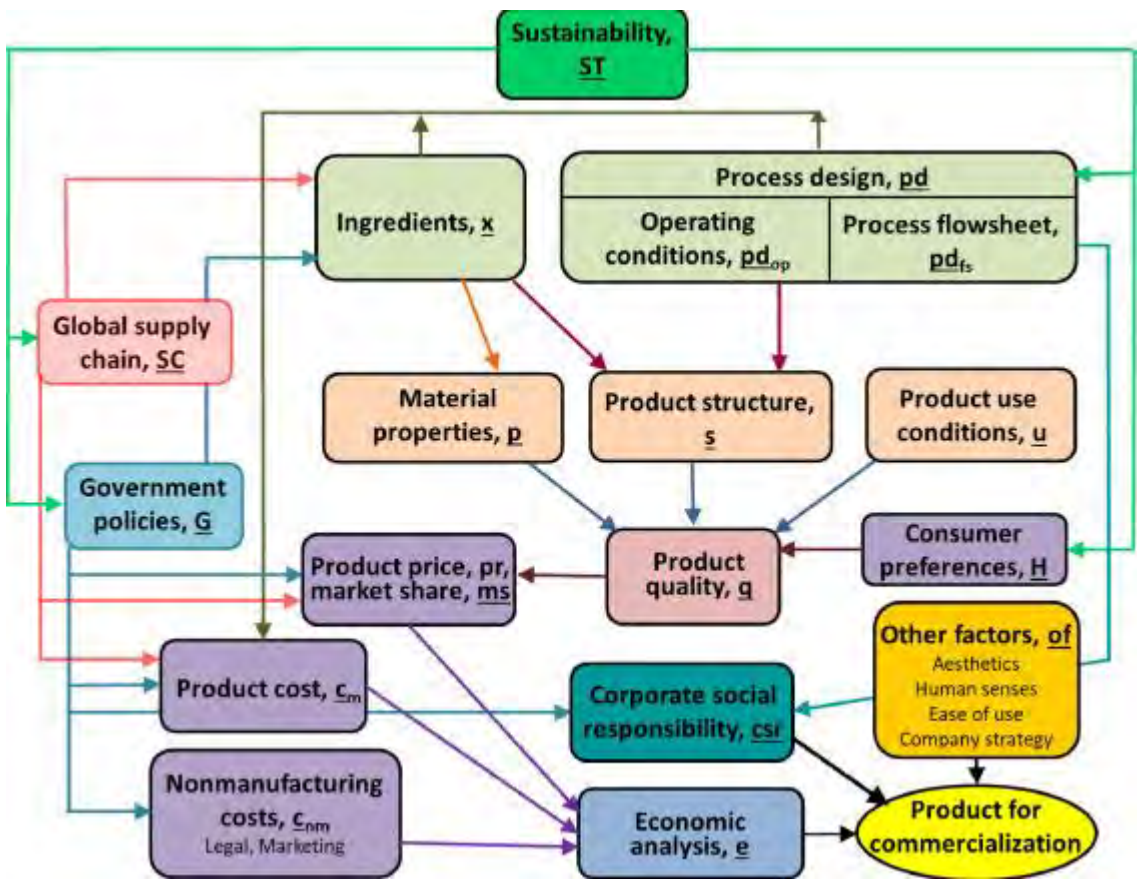
# Multidisciplinary & multicriterial approach in Pharmaceutical Innovations →



- Quality Target Product Profile (QTPP)
- Determine “potential” critical quality attributes (CQAs)
- Link raw material attributes and process parameters to CQAs and perform risk assessment
- Develop a design space (*optional*)
- Design and implement a control strategy
- Manage product lifecycle, including continual improvement



# Međuzavisnost i integracija znanja: Upotreba-Materijali-Proizvod- Proces-Primjena- Tržište





# Chemical Engineers →

- ✓ Process
- ✓ Equipment
- ✓ Materials
- ✓ Product
  
- ✓ Quality
- ✓ Manufacturing
- ✓ Maintenance
  
- ✓ ESG
- ✓ Modelling
- ✓ Data management and „Predicting”

Do You  
know  
what is  
MS&T?



We help people sense the world around them in a better, richer and more confident way.

Experience the scent of the Earth, see the world of possibilities, feel good in your skin!



***SENSE THE LIFE!***

# More about JGL →

- ❑ Croatian based, Croatian owned company
- ❑ Strongly growing; 2018-2023...doubled the income!
- ❑ 80% export
- ❑ 3 business models integrated:
  - ❑ B2C
  - ❑ B2B
  - ❑ CMO

Siegfried



# Employees →

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total number of employees

1 271



employed at JGL Pharma

1 061



average age of employees

40,5



75% of employees are women

63%

of employees have a university degree



# JGL STRATEGY → 3 pillars:

## PATIENT/CONSUMER NEEDS



Deep and Global relations with Patient/Consumer

## TIME TO MARKET



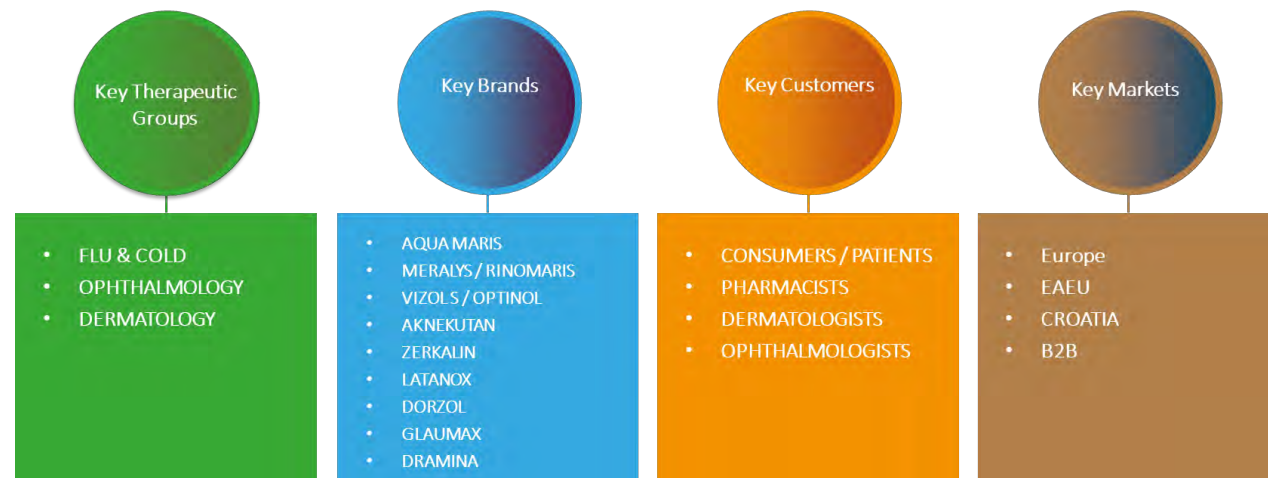
Offer solutions to patient/consumer's needs before competition

## NEW AND COMPLEX PRODUCTS



Invest in own intellectual property of innovative and complex products

Key business focus →



# JGL Journey →



AAG 1+3%
AqM, MP free
FDC/DDC P
AAP 8, 16 mg
n DED, EAEU
Vizol S LB
Vizol S – new Digital consumers
MDR upgrade EAEU upgrade

## Our Journey→

- Sterile solutions based on SW, MD category**
- Sterile ophtalmic drugs solutions, with preservative**
- Sterile nasal solutions, PF- RX**
- Sterile ophtamics solutions,PF- MD**
  
- 1st Generic in EU and EA countries:**
  - Latanoprost** eye drops (with BKC)
  - Xylomethazoline+Ipratropium**, PF; Bhoeriger formulation patent circumvented+ own patent granted
  - Clindamycine+ Benzoyl Peroxide Gel**



## Go Beyond→

- Innovative MD projects**
  - Ingridients/Composition
  - Technology (nano-emulsions, emulsion gelling in situ)
- Sterile ophtalmic emulsions and suspensions, PF- RX category**
- FDC Product and/or DDCP**
- Complex Generics** in dermatology
- 1st molecule approval in EAEU- potential for **Reference Product**
- 1st Generic potential:**
  - CP+BPO, line extension
  - New ophtalmics...
  - New dermal...

# All development teams together in the „same house”...and integrated together with JGL teams in same location: from idea → product launch

INTEGRA 2023. | JGL Hrvatska (youtube.com)



main investment and development project



significant increase in the production capacity of sterile products



building of the new logistics and distribution centre



State of the art research and development centre



PILOT PLANT



→ investments to significantly increase the ability to develop and produce **complex and innovative JGL products**





Croatia →

☐ Full

☐ Of

☐ Stories

☐ 😊

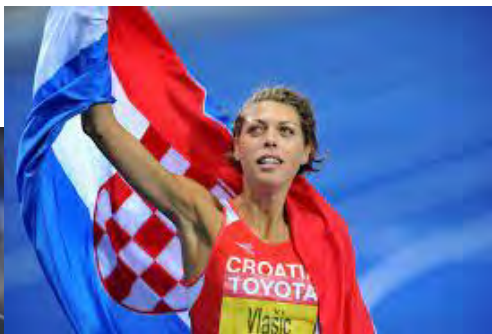


# Tourism stories →

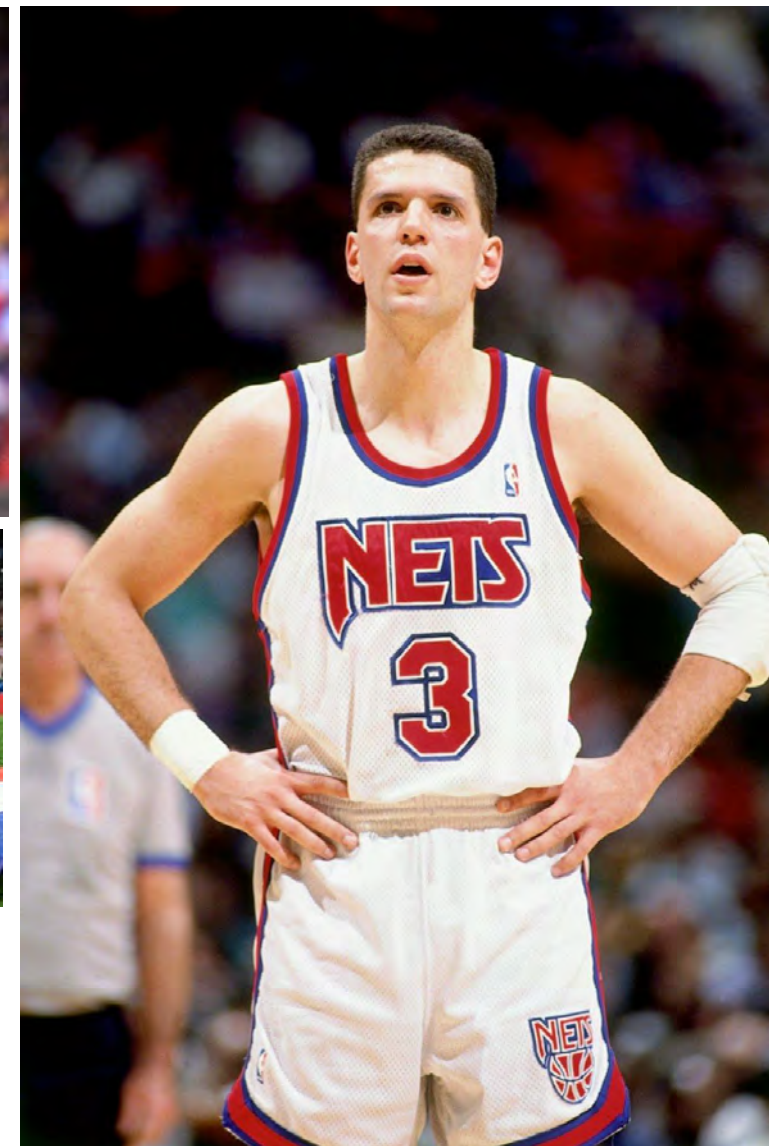
# CROATIA Full of life



# Sport stories →



**CROATIA TEAM 2021**



## 1. The Story of Azithromycin:



→ Discovered by **Pliva's research team in Zagreb** in 1980, with Azithromycin or Sumamed Croatia became one of only nine countries in the world with an original antibiotic



→ Licensed and marketed by Pfizer, under name **Zhitromax**

© 2005 GS



### Ukratko:

- **break-through inovacija u ATB terapiji**
- **Re-inovacija u kristalnoj formi i lansiranje generičkih verzija**
- **Brojna kontinuirana poboljšanja...**

# Pharma stories →

## 2. The Story of Vancomycine RTU:

- In 2019, the FDA (Food and Drug Administration) approved innovative product *Premixed Vancomycin Injection in a Ready-to-Use (RTU) infusion bag to be used against life threatening hospital infections*
- **Discovered in Zagreb R&D Centre of Xellia Pharmaceuticals.**



### Ukratko:

- Re-inovacija u formulaciji/procesu/načinu primjene
- Brojna kontinuirana poboljšanja...

# Pharma stories →

## 3. The Story of UZEDY

→ **In 2023:** Teva Pharmaceuticals, a U.S. affiliate of Teva Pharmaceutical Industries Ltd. (NYSE and TASE: TEVA), and MedinCell (Euronext: MEDCL) announced today that the U.S. Food and Drug Administration (FDA) has approved **UZEDY (risperidone) extended-release injectable suspension for the treatment of schizophrenia in adults. UZEDY is the first subcutaneous, long-acting formulation of risperidone that utilizes SteadyTeq™, a copolymer technology proprietary to MedinCell that controls the steady release of risperidone.** Therapeutic blood concentrations are reached within 6-24 hours of a single dose.

→ **Major CMC work in PLIVA Zagreb, R&D Centre**



### Ukratko:

- **Re-inovacija u formulaciji/procesu u/dužini primjene**
- **Suradnja sa MedinCell (copolymer technology)**



# Pharma stories →

4. *The story of... 2022-2027...advancing* 😊

10 SECRETS TO  
WRITE BETTER  
STORIES

## Projects targeting:

- Lower Dose & no Food Effect therapy
- DDCP\_BIC
- ✓ Kontinuirana proizvodnja sterilnih otopina

## Ukratko:

- Re-inovacija u formulaciji/procesu/metodi primjene/delivery sustavu
- Bolji efficacy & safety profil proizvoda
- Suradnja sa specijaliziranim kompanijama & Expertima (uključivo JGL Znanstveno Vijeće)

Not a secret...  
the essence of  
the story →

- HEAD
- HAND
- HEART

- Work HARD!
- Work SMART!
- Work TOGETHER!





**Samo su Nebo & More granica☺)))**

