MYRA EB SYSTEMS

VR

Effectiveness Over Traditional Training in Pharmaceutical Industry R&D

With an overview of MYRA EB's
VR Training Solutions

Contents

MYRA EB SYSTEMS

Synopsis

This Deck delves into the revolutionary impact of Virtual Reality (VR) on the pharmaceutical industry.
Focusing specifically on the effectiveness of training methods compared to traditional approaches.
Furthermore, the deck highlights recent academically acclaimed literature that underscores the profound
influence of VR on R&D training. A pivotal focus is placed on Myra EB's significant role in driving
transformative changes within the pharmaceutical sector.

Virtual Reality (VR)

Virtual reality is a stimulation generated through computer vision that produces a 3-dimensional virtual environment in which an individual can interact, create an environment, and conduct motions that stimulate a real-life environment. By wearing a head-mounted display and user-identification sensors via a joystick, the person can experience 360 degrees of the virtual environment, which gives the feeling and neurological response to the actual activity pursued in real life (Hamed& Jia, 2022).

Artificial Intelligence (AI)

Artificial intelligence compliments virtual reality training. Where VR allows users to build experience, AI allows managers to gain insights on efficacy of training for each user. The VR training system tracks performance data of trainees and AI is used to interpret competency and key areas that require greater focus.
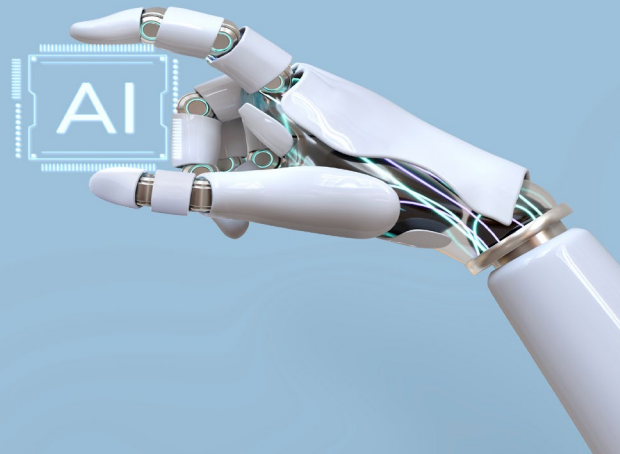
Introducing
AI and VR

3

VR in Pharmaceutical/Medical Industry

Academic Foundations

67% of 49 participants in a medical training session for preparation for an operating room fire suggested that using VR training is more helpful than medical textbooks (Dharet al, 2021).

According to the Data collected through CBInsight, CrunchBase, and AngleList, 30 startups purely focus on AR usage in medical applications, and 9 of these start-ups have used over $552 million, having a total of 30% of the investment retention rate (Hindawi, n.d).

Recent studies have shown that using virtual reality increased task proficiency by 40% and, at the same time, reduced rework by 75% among single- field task working, saving $13,680 for each worker (Dufour, n.d)

VR Based Learning

Virtual Reality based learning can easily simplify and effectively delivery complex information, enhance and to stimulate real-life scenarios in medical training for better learning (Dhar et al, 2021).

Boosting Performance

The use of VR in pharma training can boost performance as studies have shown that medical students improve 74% (17 out of 21 studies) of learning using VR tech.
87% (20 out of 21) studies have shown that
VR-based-training is more accurate in pharma practice than traditional approach (Samadbeik et al. 2018).
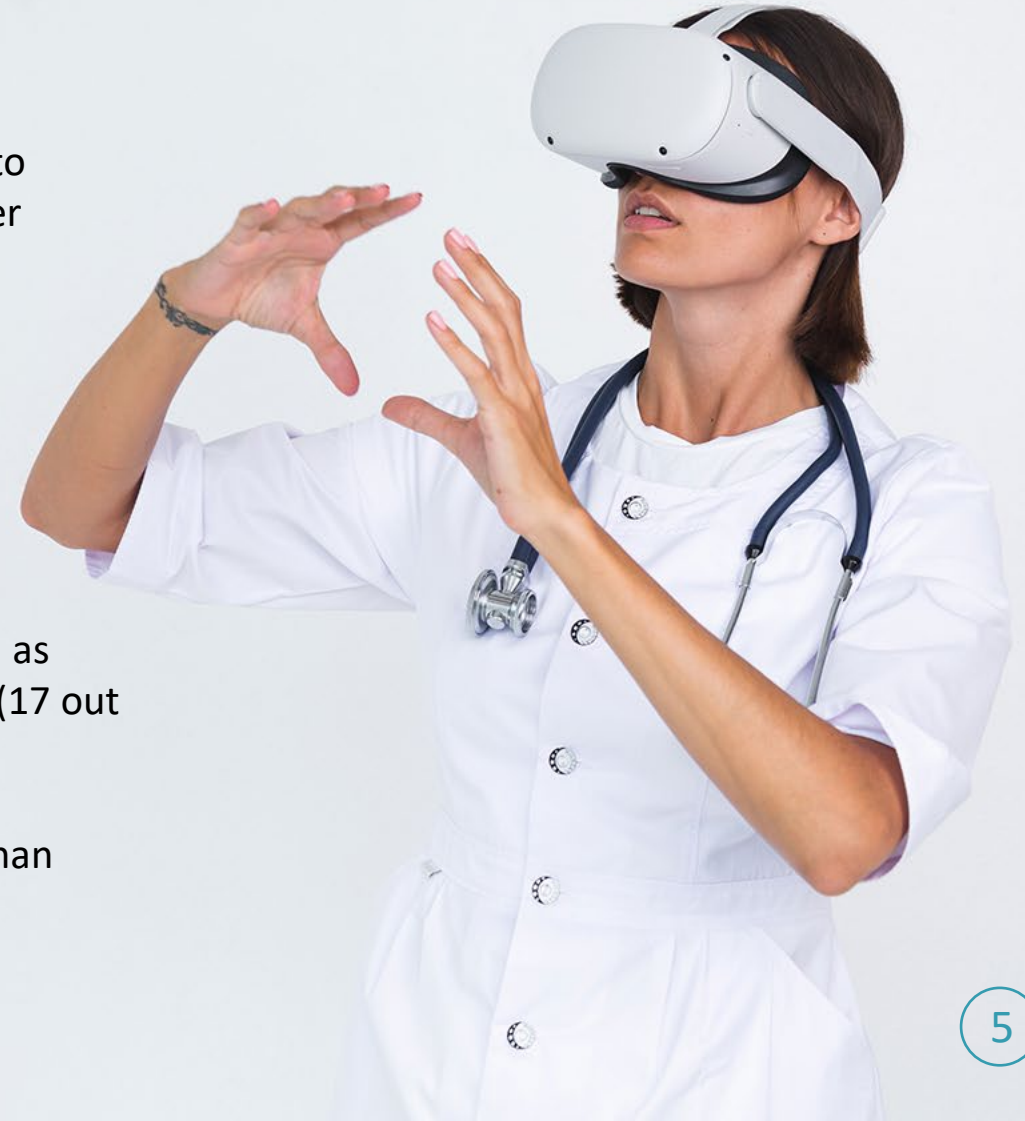
Managing Datasets

Augmented and Virtual Reality further helps the medical staff to comprehensively manage large medical datasets by integrating pharma virtual objects into the physical space for a higher learning curve. By using VR in pharma training, the students are solidifying their social and practical skills and embedding deep pharmaceutical knowledge and understanding simultaneously (Dhar et al, 2021).

Distant Learning

VR also offers the opportunity tolerant without being forced into physical interaction with other humans, something that every traditional-based training requires; that is, VR training is handy in pandemics like covid-19 (Gen et al., 2023).

Myra EB boasts experts with over 25 years of extensive experience in the domains of technology and the pharmaceutical industry. Our cohesive team is dedicated to pioneering the integration of cutting-edge Virtual Reality (VR) and Artificial Intelligence (AI) technologies to revolutionize pharmaceutical training methodologies

MYRA
EB's VR Training Solutions

Myra EB offer highly efficient training and development programs that provide tailored solutions within a flexible timeframe of 6 to 10 weeks. Myra EB excels in swiftly gathering essential information in a matter of days, affording a significant edge over the competitors. Moreover, the capacity to manage multiple development programs concurrently further sets Myra EB apart.

Myra EB swiftly customizes and offers preconfigured library features in 1 to 2 weeks. Company seamlessly integrate new systems with existing ones, including Compliance Wire compatibility. Two program modes include: (1) Evaluation Mode -Users gauge progress comprehensively, gaining clear insights and a detailed consequence walkthrough. It offers corrective actions for errors. (2) Learning Mode -Designed for learning, this mode guides users through a detailed experience, illuminating progress and offering step-by-step error correction. At Myra EB, adaptable solutions are delivered with clarity.

Myra EB Transforming Pharma Training Environment

MYRA EB's VR Training Solution

Effective Training Platform

Myra EB's VR based training system offers an effective and significant risk-reducing training platform for clinical operations and pharmaceutical manufacturing.

Immersive Simulations

Cutting-edge AI and VR technology to craft immersive simulations of the drug production process. Here, they engage with equipment, observe intricate workflows, and follow each phase.

Ready-to-Use Library

Myra EB is building a library of standard equipment and operating procedures used in pharmaceutical operations. This library serves as a foundational resource.

Customized Training Solution

The platform offers customizable training programs for various functions within the pharmaceutical
industry, including manufacturing operations and lab operations

Myra EB Transforming Pharma Training Environment

MYRA EB's VR Training Solution

Rapid Onboarding

Myra EB's training solution allows for quick onboarding of new employees. The immersive nature of
VR training reduces the typical training time from nine months to just two months

Significant Cost Reduction

The combined benefits of reduced training time, increased output, reduced material wastage,
and improved operator performance lead to multimillion-dollar savings

Leveraging Industry Experts

Myra EB has completed over 200 demos, including those with top pharmaceutical companies. This collaboration showcases their ability to leverage industry expertise and tailor their solutions to meet the specific needs and challenges of pharmaceutical manufacturing.

Regulatory Compliance

Myra EB embed Current Good Manufacturing Practices (cGMP) rules and industry regulations into its
VR training solutions. This integration ensures that learners are educated in alignment with the
latest standards, minimizing the likelihood of compliance discrepancies.

Myra EB VR Training Use Cases

Analytical and R&D Labs

- Training lab staff for the use in analytical and cell biology techniques. Such as: western blot, ELISA, cell culture, cell counting, HPLC, and other analytical technique.

Experiments involving live animals

- Training lab staff for experiments that involves killing off live animals. Reduces loss of lives during training process.
- Use of VR will increase the precision for when live tests must be run.
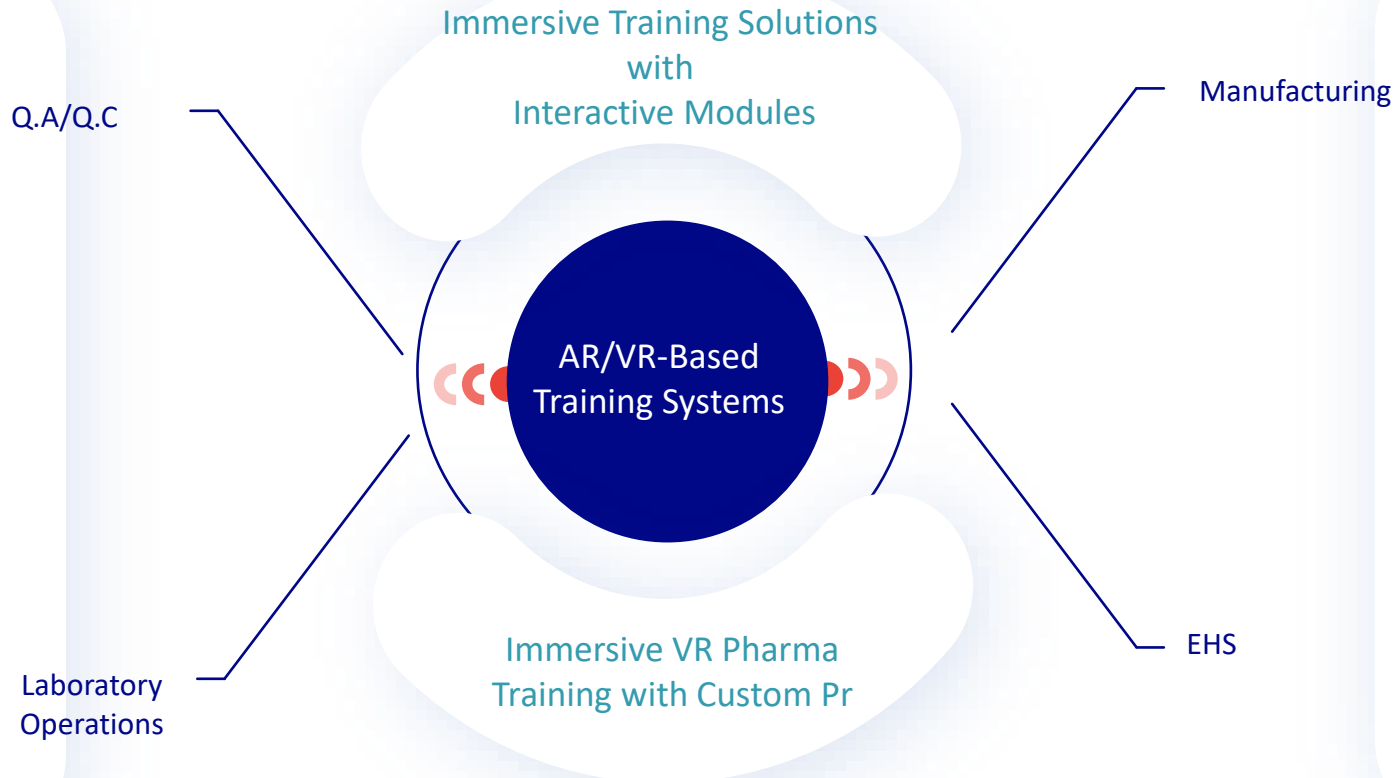- Will reduce the number of training runs.

Manufacturing

- Training on complex manufacturing systems like AKTA systems, Sepax C-Pro
- systems, Aseptic fill finish operations and others.
- Gowning and aseptic training can be preformed using VR training Systems
- Mock FDA inspections

MYRA EB
SYSTEMS

10

Myra EB Transforming Pharma
Training Environment

Myra EB Systems provides
a comprehensive and immersive training solutions using VR technology and AI driven insight functionalities. Our highly interactive training programs emphasize interactive learning, and practical exercises for optimized learning outcomes.

Immersive Training Solutions
with
Interactive Modules

AR/VR-Based
Training Systems

Q.A/Q.C

Laboratory
Operations

Immersive VR Pharma
Training with Custom Pr

Manufacturing

EHS

The platform uses VR technology to be integrated explicitly with pharmaceutical training, equipping the trainee with well-rounded practical skills and integral knowledge of pharma systems. We provide custom pricing depending on the needs of the customer while suggesting personalized pricing models for tailored training solutions.

ROI -MYRA EB's VR Training Solutions

CASE: Without Myra EB's VR Training help

For purposes of this case: 10 employees must be trained with an average salary of $100,000

Using traditional training methods. Completed training of simple procedures takes up to 6 months and training of complex procedures takes a full 12 months to complete.

To ensure comprehensive training of a single employee for optimal job performance, proficiency across 20 procedures are required.
These procedures encompass both basic and advanced tasks, with 8 falling under the category of basic, while the remaining 12 are classified as advanced-level procedures taking 6 and 12 months time respectively through traditional methods.

The total cost Without the Utilization of VR amounts to

$2,595,000

To perform a complete laboratory run solely for training in the basic procedure, the average cost amounts to $3,000 in materials the simple procedures. For the more advanced processes, the cost will be $7,000.

When comparing traditional training methods with Myra EB's VR training solutions, the probability of safety incidents caused by untrained employees is projected to increase by a factor of 5. Consequently, these errors could incur a cost of ~$37,500

Reduces animal sacrifices during R&D Training

ROI -MYRA EB's VR Training Solutions
CASE: With Myra EB's VR Training Solutions

Myra EB's VR technology will significantly decrease the number of test runs by condensing the current count of 8 basic procedure tests and 14 advanced test runs into just 2 basic procedure test runs and 3 advanced test runs. This streamlined approach not only enhances efficiency but also leads to substantial cost savings of $95,000 per operator.

By employing the Myra EB VR Training Solutions, the standard procedure time will be significantly reduced, decreasing from 6 months to just 1 month. This efficiency enhancement will result in a remarkable time-saving of 5 months for each employee. Moreover, for more complex procedures requiring advanced training, the implementation of the Myra EB systems will lead to a 12 remarkable reduction in training time. Specifically, the training duration will be condensed from 12 months to a mere 2 months, resulting in substantial time savings of 10 months per employee.


Basic Tests

Advanced Tests

Saving Time & Costs

Basic Tests

Advanced Tests

Saving Time & Costs
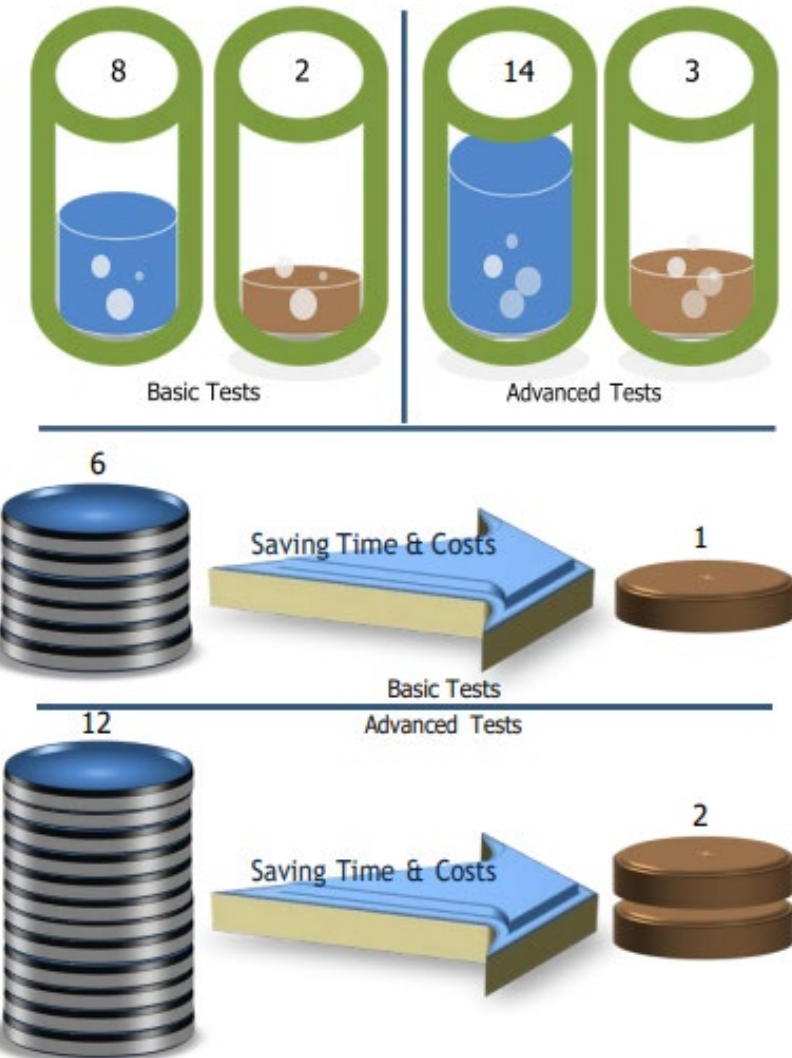
ROI -MYRA EB's VR Training Solutions
CASE: With Myra EB's VR Training Solutions

The Myra EB system and its state of art VR training significantly decreases the likelihood of the incident to 50%, resulting in a cost of merely $7,500, as opposed original expense of$37,500.

The complete cost of training 10 employees to full proficiency, excluding the implementation of Myra EB VR training systems, would amount to $2,595,000. This calculation includes one year of salaries until the employees attain complete proficiency.
On the other hand, opting for the Myra EB VR training system for these 10 employees will result in a cost of $515,000, factoring in salaries till achieving full proficiency.

$37,500

$7,500

Reducing Accidental Costs

$2,595,000

$515,000

Reducing Training Costs
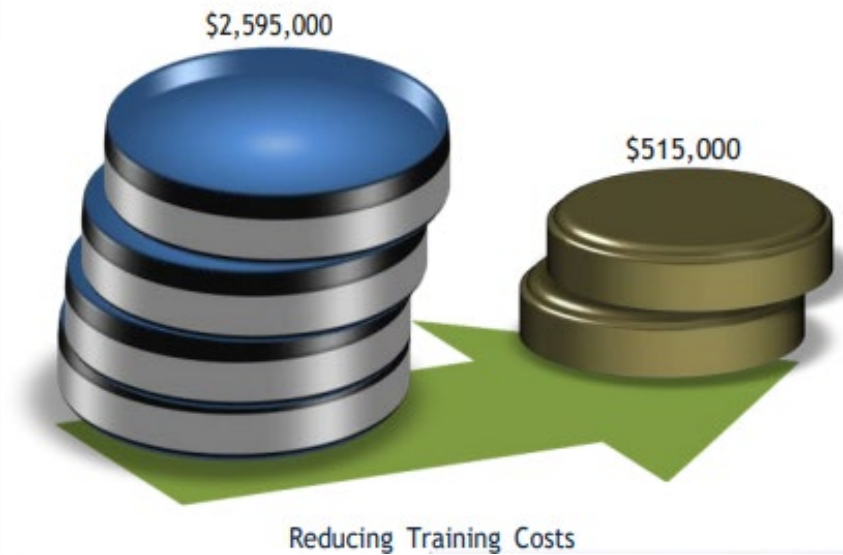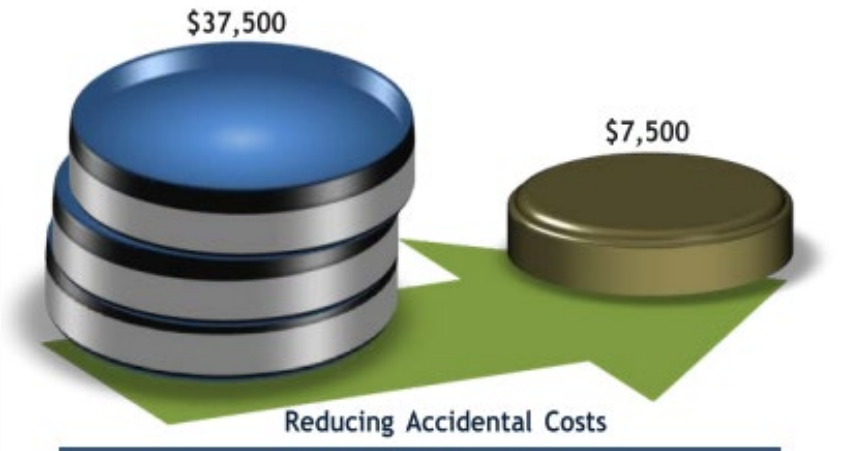
References

Hamad, Ayah, and BochenJia. 2022. "How Virtual Reality Technology Has Changed Our Lives: An Overview of the Current and Potential Applications and Limitations." International Journal of Environmental Research and Public Health 19 (18): 11278. https://doi.org/10.3390/ijerph191811278

Chandrasekera, Tilanka, and So-YeonYoon. 2018. "The Effect of Augmented and Virtual Reality Interfaces in the Creative Design Process." International Journal of Virtual and Augmented Reality 2 (1): 1–13. https://doi.org/10.4018/ijvar.2018010101

Dhar, Poshmaal, TetyanaRocks, RasikaM Samarasinghe, Garth Stephenson, and Craig Smith. 2021. "Augmented Reality in Medical Education: Students' Experiences and Learning Outcomes." Medical Education Online 26 (1): 1953953. https://doi.org/10.1080/10872981.2021.1953953

Hindawi. n.d."Augmented Reality and Virtual Reality-Based Medical Application Systems." Hindawi. https://www.hindawi.com/journals/jhe/si/538130/

Samadbeik, Mahnaz, DonyaYaaghobi, PeivandBastani, ShahabeddinAbhari, Rita Rezaee, and Ali Garavand. 2018. "The Applications of Virtual Reality Technology in Medical Groups Teaching." Journal of Advances in Medical Education & Professionalism 6 (3): 123–29. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6039818/.

Gan, Wenyi, Tsz-Ngai Mok, JunyuanChen, GuorongShe, ZhengangZha, HuajunWang, Hua Li, JieruoLi, and Xiaofei Zheng. 2023. "Researching the Application of Virtual Reality in Medical Education: One-Year Follow-up of a Randomized Trial." BMC Medical Education 23 (1). https://doi.org/10.1186/s12909-022-03992-6

Dufour, Benjamin. n.d."The ROI of VR." Blog.techviz.net. https://blog.techviz.net/roi-of-vr.