Advisory topic: **Virtual/Augmented/Mixed Reality**

Industry Maturity Index: '*Short-term*' (1-2 years), and '***Long-term***' (3-7 years or more)

Why this is important: *This is a quickly evolving trend that is in its infancy but has the potential to revolutionize the way insurance carriers and agents interact with their clients.* *Facebook's Mark Zuckerberg stated that VR is "the next major computing and communication platform."*

What is it? Here are descriptions and differences between the three technology acronyms:
Virtual Reality (VR), which can be referred to as immersive multimedia or computer-simulated reality, replicates an environment that simulates a physical presence in places in the real world or an imagined world, allowing the user to interact in that world. VR is the umbrella term for all immersive experiences.
          Examples: Gaming, education, training simulations
Augmented Reality (AR) is an overlay of content on the real world, but that content is not anchored to or part of it. The real-world content and the computer-generated content are not able to respond to each other.
          Examples: Retail (makeup mirrors, furniture & remodeling), House-hunting, Pokemon, travel & medicine
Mixed Reality (MR)—sometimes referred to as hybrid reality—is the merging of real and virtual worlds to produce new environments and visualizations where physical and digital objects co-exist and interact in real time. MR can sometimes incorrectly be referred to AR, and vice-versa.
          Examples: Training – Pilots/astronauts, Education.

Broad Implications / Uses: This has applications across many spectrums of our lives;
- Education
- Training
- Loss Control
- Advertising
- Retail Sales
- Create Visual Design
- Gaming
- Our reality will become intertwined with virtual reality
- Creating models and prototypes will accelerate to a higher level
- Niche markets will be created, others impacted
- VR/AR/MR will become the laboratories of the future.

EXAMPLE: With education alone, the level of immersion that virtual reality provides for its user is the reason that virtual reality has a lot of potential for eLearning. By immersing learners in their learning experience, the hope is that those learners will become fully engaged with the learning material.
          "I hear and I forget. I see and I remember. I do and I understand." - Confucius

Economic Impact(s):
Improved customer experience
Significantly reduced design and development windows
Real time education and training availability, reducing need for classroom, potentially reducing overall tuition cost
The explosive growth in the user-base of VR will quickly create a large consumer demand for haptics (touch transmission) devices, resulting in a significant demand for design and manufacturing jobs.

AR & VR will enable boosts in operational efficiencies within some industries resulting in reduced workforces.

Insurance Industry Implications: AR can have positive and negative impacts to many areas of our industry;
● Positive Impacts
   o Marketing opportunities - showcase example of exposures/coverage. The following video is a great real-life example: https://youtu.be/avrvkZaphwo
   o New categories of exposure and loss - Think of Pokemon
   o Demonstrate products
   o Claim Processing / Loss site recreation - Zurich field engineers using smart glasses.
   o Education/training - consumers and insurance employees
   o Can assist with market intelligence, Underwriting discipline, and overall strategy
   o Ability to augment/replace some workforce on assessment, such as CAT review.
   o Possible cost containment for exposures such as Work Comp.
● Negative Impacts
   o Increased claims particularly in the areas of privacy and security
   o Cybersecurity exposure
   o Costs to smaller carriers who are trying to compete with larger carriers adopting IoT/AR/VR
   o Health concerns - Motion sickness/Cyber Sickness/Sim Sickness
   o End-user may become over-reliant on the accuracy of data
   o Laws and regulations will lag behind technology.
● Indeterminate Impacts (if required)

Recommended Actions:
  Agents -
   While still in early stages, augmented reality can be used to add video or images to printed materials creating a personal connection to potential or existing customers.
   Review your current customer base for possible impacts
   Investigate niche markets for insuring VR and AR delivery systems, and to ensure adequate coverages..
  Carriers -
   Virtual, augmented and mixed reality has the potential to provide a real-world images and perspective for training/risk management for employees, agents and customers.
  Vendors -

As with carriers, investigate possibilities for integration with existing systems for future uses.

Examples/Resources:

KPMG: How Augmented and Virtual Reality Are Going to Change Insurance

Virtual Reality & Insurance – A Match Made In Heaven?

Virtual Reality: A Role in Insurance?

The Potential of Virtual Reality for Insurance Innovation

Augmented, Virtual & Mixed realities: The risk chain grows more complex

How can Insurance Businesses Get on Board with Augmented Reality?

Revolutionizing Stakeholder Experience in Insurance through Augmented and Virtual Reality

How Augmented and Virtual Reality can Impact the Insurance Industry.

Evolving Technology Caution:

Imagine 10 years ago trying to envision the way we use cellphones today. It's impossible. Likewise, this is the promise VR holds today. VR at its best shouldn't replace real life, just modify it, giving us access to so much just out of reach physically, economically. In this context, the evolution of this trend will be difficult to contemplate in its entirety. The ACT Changing Nature of Risk work group will stay focused on this primary trend to understand its implications.

Call to Action:

● As this technology is advancing as rapidly as any other, and the implications will impact almost all areas of our world, keeping current will be a challenge. It is suggested that industry personnel use resources such as this Advisory and others listed to clearly understand the insurance and personal impacts. Along with trends such as the Internet of Things (IoT), this is recommended to be a primary focus.

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