

Summary

Fall 2023 saw 10,546 students, faculty, and staff use the Media Commons, Maker Commons, and Immersive Experiences Lab initiatives across the Commonwealth. Much of this use was focused in **299 classes** in nearly every discipline offered at Penn State. To facilitate these interactions outside of University Park, traveling consultants provided **27 in-person sessions** and **93 remote sessions** for instruction, consultations and support.

One Button Studio 2.0 helped students and faculty create **6,238 academic videos**, comprising over **236 hours of video**. In addition, students from across the Commonwealth created **6,719 3D prints** in pursuit of their course work and their own curiosity.

The **Interactive Experiences** team facilitated 26 experiences across 5 colleges. The team currently offers four main experiences: virtual reality, augmented reality, a cooperative, discussion-based card game called IMPACT that focuses on empathy, diversity, and technology as well as generative AI tools.

The report that follows breaks down our interactions with students and faculty and examines engagement levels with services offered, locations, and by individual colleges. Throughout the report we'll draw attention to exciting assignments, surprising class partnerships, and interesting observations from the semester - stories that tell the ways in which Penn State faculty and students are pushing the boundaries of education into the future. We also point out usage and technology trends that draw from the Creative Learning Initiatives group's proven history in supporting multimedia and emerging technology as well as reflect on challenges and opportunities in the coming semesters.

People Helped

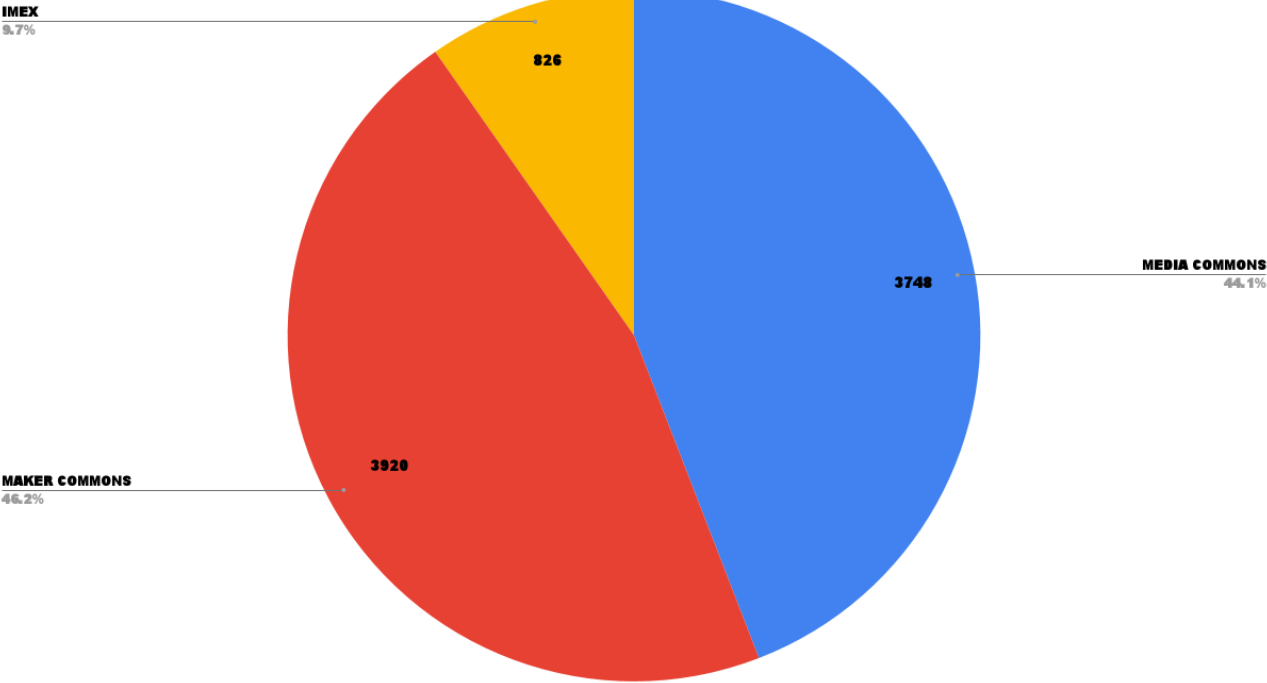
Faculty and students used Media Commons, Immersive Experiences Lab and Maker Commons services in a variety of ways in all of our locations over the course of the semester. These charts count how many people were aided by our consultants in either 1-on-1 consultations or in-class workshops. At University Park, 41,745 students were enrolled in Fall 2023, which means that roughly 21% of registered students benefited from Media/Maker/IMEX services.

| Media Commons @ University Park | # of People Helped |
|--|--------------------|
| Pattee Library Knowledge Commons | 1,697 |
| Pollock Building Computer Lab | 81 |
| PAMS Library, Davey Lab | 62 |
| Immersive Experiences Lab, Agricultural Sciences & Industries Building | 146 |

| | |
|---|--------------|
| Media Commons Workshops | 2,598 |
| Maker Commons Workshops and 3D Printing Users | 3,226 |
| Immersive Experiences (IMEX) Workshops | 684 |
| Media Commons Events | 365 |
| University Park Total | 8,859 |

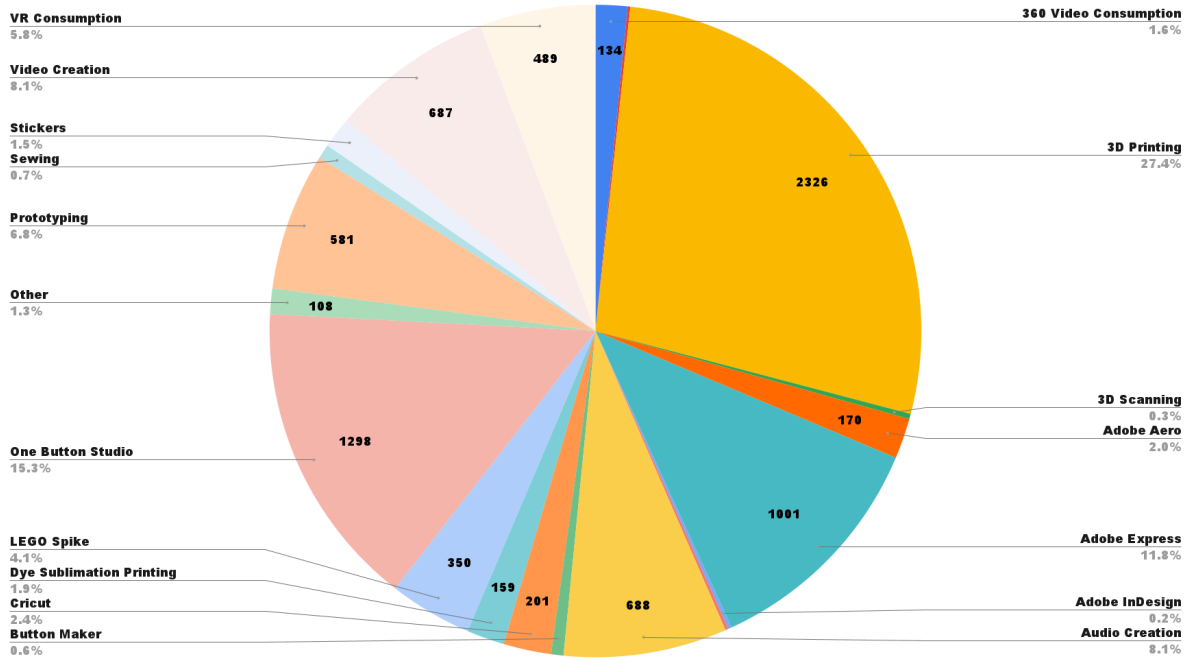
University Park Breakdown by Service

UP PEOPLE HELPED BY MC SERVICE



University Park Technology Breakdown (Excluding Events)

UP TOTAL PEOPLE ASSISTED BY TECHNOLOGY FALL 2023



| Technology Name | # of People Helped | Technology Name | # of People Helped |
|-----------------------|--------------------|--------------------------|--------------------|
| 360 Video Consumption | 134 | Cricut | 201 |
| 360 Video Creation | 11 | Dye Sublimation Printing | 159 |
| 3D Printing | 2,326 | LEGO Spike | 350 |
| 3D Scanning | 22 | One Button Studio | 1,298 |
| Adobe Aero | 170 | Other | 108 |
| Adobe Express | 1,001 | Prototyping | 581 |
| Adobe InDesign | 15 | Sewing | 59 |
| Arduino | 13 | Stickers | 130 |
| Audio Creation | 688 | Video Creation | 687 |
| Button Maker | 52 | VR Consumption | 489 |

Featured Stories

- Students in **Learning Design and Technology** (LDT 110) had unique opportunities to learn about making through project-based learning in the classroom and also through three different field trips to the Maker Commons for a tour of our makerspaces, a Lego Robotics/Sphero Bolt robotics workshop and an Augmented Reality workshop using Adobe Aero. For one of their assignments, students are asked to first design a prototype by applying the technical, problem solving and creative skills that they learned in class. The second portion of the assignment was to physically or digitally create the prototype using Maker Commons services. **7 sections of 40 students each** returned to our spaces for one-on-one making consultations that included Arduino, robotics, 3D modeling, 3D printing, Cricut, LittleBits, MakeyMakey, paper circuits, button making, sticker printing and Microbits.

Campus Engagement

Campuses often don't have their own local Media Commons support and so rely on our consultants to visit campus to work with faculty and provide workshops for students. We host several tailored faculty events each semester to discuss opportunities and visit campuses as often as possible to support class partnerships.

Western Campuses

| Campus | # of Penn Staters Helped | # of Classes | Events | In-Person Visits* | Remote Sessions† |
|-------------------|--------------------------|--------------|----------|-------------------|------------------|
| Altoona | 196 | 7 | 1 | 3 | 34 |
| Beaver | 137 | 7 | 2 | 5 | 2 |
| Behrend | 16 | 1 | 2 | 1 | - |
| DuBois | 18 | 1 | - | - | 2 |
| Fayette | - | - | - | - | - |
| Greater Allegheny | 173 | 8 | 2 | 6 | 4 |
| Harrisburg | 379 | 1 | 1 | - | 1 |
| Mont Alto | 6 | 1 | - | - | 1 |
| New Kensington | 94 | 7 | - | 2 | 1 |
| Pittsburgh Center | 24 | 1 | - | 1 | 2 |
| Shenango | 48 | 1 | - | 1 | 2 |
| Totals | 1,091 | 35 | 8 | 19 | 49 |

* In-Person Visits include travel to campus for teaching workshops, faculty consultations, meeting with students, hosting events, equipment and computer service and/or One Button Studio tune-ups.

† Remote Sessions denote online teaching workshops, faculty consultations, meeting with students, critiques of project materials uploaded to Canvas, OneDrive, etc

Featured Stories

- 102 students in **First Year Seminar at Penn State New Kensington** used IMEX Lab immersive headset pilot headsets as their cohorts rotated through activities that introduced them to global literacy. Students viewed a [360° video playlist](#) and completed

assignments that asked them to reflect on their own experiences and how they informed understanding of an unfamiliar place, what biases these experiences created and how they could become more open to new perspectives.

- At Penn State DuBois, **Jessica Clontz asked her HDFS 418** students to create 5-6 minute digital stories that demonstrate comprehension of [course concepts](#) as applied to [personal experience](#) within a family. “This project is not aiming to tell your entire life story but, rather, one moment or area of your life that was important to your development and within the family context.”

Eastern Campuses

| Campus | # of Penn Staters Helped | # of Classes | Events | In-Person Visits* | Remote Sessions† |
|---------------|--------------------------|--------------|----------|-------------------|------------------|
| Abington | 20 | 1 | - | - | 4 |
| Berks | 189 | 4 | - | - | 5 |
| Brandywine | 205 | 7 | 1 | 4 | 4 |
| Great Valley | 23 | 3 | - | 1 | 3 |
| Hazleton | 30 | 3 | 1 | - | 5 |
| Lehigh Valley | 2 | 1 | - | - | 4 |
| Schuylkill | 29 | 4 | - | 2 | 7 |
| Scranton | 34 | 1 | - | - | 4 |
| Wilkes-Barre | 20 | 1 | - | - | 6 |
| York | 44 | 1 | - | 1 | 2 |
| Totals | 596 | 26 | 2 | 8 | 44 |

* In-Person Visits include travel to campus for teaching workshops, faculty consultations, meeting with students, hosting events, equipment and computer service and/or One Button Studio tune-ups.

† Remote Sessions denote online teaching workshops, faculty consultations, meeting with students, critiques of project materials uploaded to Canvas, OneDrive, etc

Featured Stories

- Working in close collaboration with Learning Design - and building off a Faculty Engagement Awards project - Pierce Salguero's **18 HIST 497/ASIA 405Y/RLST 497 students at Abington** constructed [virtual tours of 11 locations throughout Japan](#). With immersive storytelling support, students planned out engaging and informative

projects and leveraged ThingLink to assemble materials from a Summer 2023 trip to Buddhist healing temples and other medicinal sites. These tours were integrated as cornerstone content in Dr Salguero's [Jivaka Project](#) website.

Class Partnerships Across Colleges

Media Commons consultants partner with faculty from every college at Penn State to help design multimedia and making assignments, provide workshops for students, and 1-on-1 consultations as the students complete their work. This table represents how many classes were worked with in which colleges during the semester.

Partnered Service Key: Media Commons = MeC, Maker Commons = MaC, Immersive Experiences Lab = IMEX

| Colleges | University Park | | | | Western Campuses | | | | Eastern Campuses | | | | Grand Totals |
|---------------------------------------|-----------------|-----------|-----------|------------|------------------|----------|-----------|-----------|------------------|----------|----------|-----------|--------------|
| | MeC | MaC | IMEX | Total | MeC | MaC | IMEX | Total | MeC | MaC | IMEX | Total | |
| Agricultural Sciences | 1 | - | - | 1 | - | - | - | - | - | - | - | - | 1 |
| Arts & Architecture | 9 | 5 | 7 | 21 | 1 | - | 2 | 3 | - | 1 | - | 1 | 25 |
| Business | 2 | 2 | 2 | 6 | - | - | 1 | 1 | 6 | - | - | 6 | 13 |
| Communications | 3 | 3 | 1 | 7 | 2 | - | 1 | 3 | 8 | - | - | 8 | 18 |
| Earth & Mineral Sciences | 3 | - | 1 | 4 | 1 | - | - | 1 | - | - | - | - | 5 |
| Education | - | 16 | 7 | 23 | - | - | - | - | - | - | 1 | 1 | 24 |
| Engineering | 3 | 25 | - | 28 | - | 2 | - | 2 | - | - | - | - | 30 |
| Health & Human Development | 17 | - | - | 17 | 5 | - | - | 5 | 2 | - | - | 2 | 24 |
| Information Sciences & Technology | - | 8 | 1 | 9 | 4 | 1 | 3 | 8 | 2 | - | - | 2 | 19 |
| Liberal Arts | 76 | 22 | 7 | 105 | 7 | - | 5 | 12 | 3 | - | 1 | 4 | 121 |
| Medicine | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Nursing | - | - | - | - | - | - | 2 | 2 | - | - | - | - | 2 |
| Sciences | 3 | 4 | - | 7 | - | - | - | - | - | - | - | - | 7 |
| Graduate | - | - | - | - | - | - | - | - | 3 | - | - | 3 | 3 |
| Penn State IT | - | 1 | - | 1 | - | - | - | - | - | - | - | - | 1 |
| Teaching and Learning with Technology | 2 | 2 | - | 4 | - | - | - | - | - | - | - | - | 4 |
| World Campus | - | - | 1 | 1 | - | - | - | - | - | - | - | - | 1 |
| University Libraries | - | 1 | - | 1 | - | - | - | - | - | - | - | - | 1 |
| Totals | 119 | 89 | 27 | 235 | 20 | 3 | 14 | 37 | 24 | 1 | 2 | 27 | 299 |

Featured Stories

- At Penn State Beaver, Stephen Kanicki became **the first Commonwealth campus instructor to receive the initial four traveling LEGO Spike robotics kits** that pair the easy-to-build projects with iPad Pros for both visual, block-based coding and light Python-based scripting. [Kanicki's 16 IST 331 students](#) received an initial training revolving around building and modifying robot racers and then spent the next several weeks developing working prototypes of (and instructions to build) robots designed to appeal to 10-12 year olds.

- IMEX Lab again visited Penn State Behrend's VAR Lab to hold two days of programming in the Fall. On **November 7th, 18 students and faculty gathered** at the Lilley Library for a tutorial on creating AR scenes using Adobe Aero on the iPad Pro. On **November 8th, 8 students, faculty and staff dropped by** the VAR Studio to have their own objects (including sharks' teeth, campus artifacts, reproductions from Petra and monkey skulls) professionally 3D scanned.

Interactive Experiences

Dreamery Experiences

The **Interactive Experiences** team facilitated 26 experiences across 5 colleges. The team currently offers four main experiences: Virtual Reality (VR), Augmented Reality (AR), a cooperative, discussion-based card game called IMPACT (IMP) that focuses on empathy, diversity, and technology as well as Generative AI (AI) tools.

Experience Key: Virtual Reality = VR, Augmented Reality = AR, IMPACT Deck = IMP, WTD = What The Deck

| Colleges | Dreamery Experiences | | | | |
|-----------------------------------|----------------------|----------|----------|----------|-----------|
| | VR | AR | IMP | AI | Total |
| Agricultural Sciences | - | - | - | - | - |
| Arts & Architecture | - | - | - | - | - |
| Business | 2 | 2 | - | 2 | 6 |
| Communications | 2 | 3 | - | 1 | 6 |
| Earth & Mineral Sciences | - | - | - | - | - |
| Education | 2 | 2 | - | 1 | 5 |
| Engineering | - | - | - | - | - |
| Health & Human Development | - | - | - | - | - |
| Information Sciences & Technology | 1 | - | 3 | 4 | 8 |
| Liberal Arts | | | - | 1 | 1 |
| Medicine | - | - | - | - | - |
| Nursing | - | - | - | - | - |
| Sciences | - | - | - | - | - |
| Events | | | - | | |
| Totals | 7 | 7 | 3 | 9 | 26 |

Featured Stories

- The Interactive Experience team guest lectured in **zIST 130: Emerging Technologies in Popular Culture**, which had over 300 students. Their lecture provided a foundational understanding of generative AI, introducing various AI tools and their applications. The session's highlight was a collaborative exercise where students worked in small groups to creatively redesign the Nittany Lion using these AI technologies. This activity not only enhanced their practical skills but also deepened their appreciation of AI's impact in education and society.
- The Interactive Experiences team launched the **IMPACT deck app** on both iOS and Android platforms. IMPACT, which stands for Inclusive and Multicultural Perspectives with Actions, Characters, and Technologies, encourages players to explore the influence of technology on society through character-focused storytelling and scenario-building. In addition to the mobile versions, IMPACT is also available on the web at impactdeck.psu.edu, and in-person via limited physical decks.
- Launched in the summer of 2023, **AI Horizons** swiftly evolved into a vibrant community of practice, now encompassing over 550 faculty and staff from across Penn State's Commonwealth campuses. Demonstrating its growing engagement, the community saw robust attendance at its monthly, hybrid meetings, with 124 participants in January and 92 in February. This thriving initiative extends beyond the live sessions, as all meetings are recorded and made available in an online Microsoft Teams space, where discussions and collaborations continue, fostering an ever-expanding dialogue on generative AI in higher education.

One Button Studio: On Campus + At Home

Media Commons supports the One Button Studio project across campuses and students in remote locations. The One Button Studio allows students and faculty to simply create quality academic videos, often for recording presentations, lectures, and demonstrations, or completing class assignments - both in-person and via best practices to apply at home via Zoom.

In-Person

| Location | # of Videos Created | Total Duration of Videos Hours:Minutes:Seconds |
|--|---------------------|---|
| Pattee Library Knowledge Commons (2 studios) | 3,420 | 148:08:00 |
| Pollock Building Computer Lab (2 studios) | 463 | 18:09:00 |
| PAMS Library, Davey Lab | 397 | 21:26:00 |
| University Park Total | 4,280 | 187:43:00 |
| Abington | 119 | 3:15:00 |
| Altoona | 77 | 2:32:00 |
| Beaver | 297 | 4:21:00 |
| Behrend | 30 | 2:35:00 |
| Berks | 141 | 1:45:00 |
| Brandywine | 386 | 12:03:00 |
| DuBois | 26 | 1:11:00 |
| Fayette | closed | closed |
| Great Valley | 29 | 0:12:00 |
| Greater Allegheny | 93 | 0:30:00 |
| Harrisburg | 94 | 1:29:00 |
| Hazleton | 2 | 0:01:00 |
| Lehigh Valley | 106 | 2:58:00 |
| Mont Alto | 10 | 0:08:00 |
| New Kensington | 162 | 5:10:00 |

| | | |
|------------------------------------|--------------|------------------|
| Penn State Center | No report | No report |
| Schuylkill | 5 | 1:56:00 |
| Scranton | 243 | 7:32:00 |
| Shenango | 3 | 0:01:00 |
| York | 135 | 1:24:00 |
| Commonwealth Total | 1,958 | 49:03:00 |
| Total One Button Studio Use | 6,238 | 236:46:00 |

OBS Online Resources

| Page | # Unique Visits | Avg Time on Site |
|--|-----------------|------------------|
| Using Your One Button Studio (faculty) | 565 | 00:01:18 |
| One Button Studio at Home | 266 | 00:03:26 |
| One Button Studio Best Practices | 255 | 00:01:16 |
| Kaltura Based Assignments | 93 | 00:02:29 |

Featured Stories

- Media Commons consultants are assisting as advisors with this project about sustainable practices in green building techniques.

Maker Technologies

The Maker Commons offers students at University Park, the Commonwealth Campuses, and World Campus access to 30 3D printers through an online submission process. The printers are located at University Park but, through a partnership with University Libraries, are able to ship prints to any student for easy pick-up.

| | |
|--|--|
| Registered 3D Printing Projects | 42 |
| Registered 3D Printing Project Students | 1,875 |
| Hours of Print Time <i>Registered and Personal 3D Printing</i> | 20,680 hours (862 days) |
| Successful Prints | 6,719 |
| Filament Used | 209,070 grams (460 LBS) 45.46 Miles |

Featured Stories

- Students in Ann Holt's **Introduction to Art Education AED 101S** course visited Maker Commons to create a collaborative, interactive art exhibit installed in the Patterson Building that told the story of their visions for teaching and learning. To achieve this, staff taught a workshop with two portions. During the first half students were taught how to create and edit a personalized audio recording of their artist/teaching statements with a GarageBand tutorial. Next, students were taught how to upload their recordings to a device called a [Bare Conductive Touch Board](#) and were shown how to program the device and wire it so that it could be connected to touch points located on works of art that were created outside of class. At the exhibition, participants could trigger the playing of the recordings by touching the different touch points with their fingers.

Websites and Social Media

Continuing a previous trend, CLI site traffic is down across the board, though for Media Commons and Maker Commons sites, the per visit views are marginally higher semester over semester. This could point to more reliance on in-person assistance and just-in-time hotline-based support (phone, chat, email). There is also evidence of a drop in search engine traffic from outside the University. A continued trend towards support for physical resources is present, as evidenced by the popularity of tutorials centered on 360° cameras and 3D printed objects. The nearly equal (year over year) viewership of PSA and Free Media Library content on the Media Commons site also points to a return to traditional, complex video assignments in many classes that had shifted to lighter, online-friendly tools like Adobe Express. Illustrator tutorials being at the top of the heap also point in this direction.

- The number of unique visitors was **69,989 across all three services**:
 - 54,345 via Media Commons (-47%)
 - 4,884 via IMEX Lab (-42%)
 - 10,760 via Maker Commons (-4%)
- The pageviews for Media Commons reached **93,354, representing a 13% increase in pages per visit** (1.7 vs 1.5). Popular content included:
 - **Public Service Announcement** (8% total views)
 - **Free Media Library** (8%)
 - **Using the Line Tool and Applying Stroke in Illustrator** (5%)
- The pageviews for IMEX Lab reached **8,832** representing a 10% decrease in pages per visit (2.0 vs 1.8). Popular content included:
 - **Pairing the GoPro Camera to Your Phone** (4% total views)
 - **Using the GoPro MAX to Manually Shoot Photos** (3%)
 - **Immersive Storyboarding Tutorial** (3%)
- The pageviews for Maker Commons reached **79,129 representing a 4% increase in pages per visit** (7.4 vs 7.0). Popular content included:
 - **3D Printing** (16% total views)
 - **Picking Up Your Print** (12%)
 - **Information to 3D Print** (12%)

A renewed effort to engage with our various audiences through social media channels continues. Notable trends from Fall semester include:

- Facebook reach **increased 11.8%** over the course of the Fall semester
- Instagram content **interactions are up 100%** over the Fall semester
- LinkedIn saw a **312% increase in impressions** between August and November and a **34% growth in engagement** August to October

Challenges, Opportunities & Notable Trends

Looking at some of our key performance indicators when compared to 1, 2, 5 and 10 years ago will help us identify areas of growth and change. There is an ebb and flow to each semester, but by analyzing in this way we will be better able to identify trends worthy of further investment or of reassigning resources.

| KPI | 1 Year Ago | 2 Years Ago | 5 Years Ago | 10 Years Ago |
|---|------------|-------------|-------------|--------------|
| Overall People Helped | +1% | +45% | -22% | +5% |
| University Park Partnered Courses | -3% | +64% | -18% | +231% |
| Commonwealth Campuses Partnered Courses | -11% | -14% | -2% | +36% |
| One Button Studio Videos | -10% | +59% | -52% | +45% |
| Successful 3D Prints | +37% | +63% | +173% | N/A |
| Partnered Courses Using Immersive Tech | +54% | +330% | +105% | N/A |