YCP Hacks 2022: *The Schneider Prize for Technology Innovation*

(L-R) Frank Schneider, US Army; Dr. Tony Schneider, US Army Air Corps; Dr. Henry Schneider, US Marines; Edward A. Schneider, Jr, US Navy

The Schneider Prize for Technology Innovation was founded in 2017 to honor the accomplishments of the Schneider family of York County, PA. Four brothers from York enlisted in the four branches of the military during World War II, while their sisters and parents served at home. The brothers returned to become scientists, engineers and civil servants, making their mark on our community. This prize honors their family's achievements in our community and will be awarded to a Hack that results in ideas and innovations for communicating and educating about specific technology.

In 2018, the prize was offered to the developer or team of developers that could improve upon the use of our current Grease Thief® technology. The winning team shared the $1000 prize for their coding design and solution for creation of a criteria data set that generated actions based on lubricant color changes. This led to our current patented Grease Thief Colorimeter that customers can use on-site to analyze and quantify color changes in grease.

In 2019, the Schneider Prize focused on hacking our existing technology videos used for training and education to improve effectiveness with the use of various image and video processing tools or ideas for format and content enhancement. The winning team used augmented reality to show how our Grease Thief T-handle sampler works, helping customers better understand the sampling processes.

<u>The challenge of the 2022 Schneider Prize for Technology Innovation will be:</u>

Using the "Hack-in-a-Box" Grease Thief supplies provided, and other items such as the Raspberry Pi available, develop a program or process that can connect and collect data from multiple devices (e.g. sensors, scales, barcode scanners, any student designed device, smart phone app, etc) that could be uploaded to a website via an HTTP request. Or, use the supplies provided to "work together with a team to make something awesome" in the spirit of YCP Hacks.

MRG Labs designs instrument solutions for deployment in analytical laboratories and for end-users as mini-lab solutions, allowing the evaluation of greases sampled from machinery to determine grease condition, contamination levels, and equipment health. As a part of this process devices are often integrated into forms of automation that must receive and handle data output from these devices. Currently York College is collaborating with MRG Labs for a Manufacturing Fellowship funded by a Pennsylvania state grant.

This Fellowship builds on existing efforts to automate laboratory operations, namely the Grease Monkey, a robotic setup that scans, masses, assesses ferrous debris, measures color, and uploads the data to a website, MRGnavigator. Teams who show interest in competing for Schneider Prize will create a program to read data from devices and upload to a website via a HTTP request. The teams will be provided with a GitHub repository that contains a locally hosted webpage, CSV file to simulate data, and a technical guide. The Grease Monkey robot will be present for teams to observe how their program could be applied to grease analysis. Each team's solution will be judged on design, execution, coding style, and creativity. The team that makes the best program will receive a **$1000 Grand Prize**. If a second worthy submittal is received, a **Reserve Prize of $500** will also be awarded.

More information and ideas will be presented in a brainstorming session given by JD Brown Center for Entrepreneurship Center member MRG Labs during YCP Hacks. Insight will be provided by Rich Wurzbach (President), Luke Landis & Josh Hall (YCP Engineering Interns) and Dylan Kletzing (Lab Manager). Good Luck to all the Hackathon participants! To contact with questions, you can text them to the MRG Labs team: Luke Landis 717-386-7835, Josh Hall 336-420-7758 or Rich Wurzbach 717-324-5921.