

CAS CUSTOM SERVICESSM

TORAY INDUSTRIES UNLOCKS NEW VALUE FROM DATA

Solution success story



The challenge: Missing data structure slows R&D innovation

As an innovation leader in chemistry, Toray accelerates its pipeline with materials informatics to extract insights from data. When Toray scientists were tasked with preparing their own datasets, it proved time-consuming and exposed challenges. Experimental scientists were becoming heavily involved in data handling, but often lacked the training necessary to effectively establish and execute a data strategy. Beyond traditional data science skills, managing scientific information was challenging because data formats extend beyond text and numbers, such as chemical structures, physical properties, graphs, and diagrams. The lack of an underlying data platform and siloed data also contributed to the problem. Toray needed a more structured approach to data management that would optimize R&D efforts.

A strong data foundation and the expertise to manage it

Toray partnered with CAS for a tailored training program. Led by CAS scientific and technical experts, the immersive course aimed to educate research scientists from Toray on the core principles of curating and managing data and how to apply these principles to their specific goals and challenges.

Through deep, consultative discussions with Toray scientists, CAS helped uncover and work through data issues, offering recommendations for data systems most applicable to future needs. "The hands-on experience and personalized training helped us better understand our data problems and the next action steps we need to take," said Dr. Yamamoto, Senior Research Chemist, Toray Industries.

As a result of training at CAS, the scientists from Toray not only learned new data skillsets but also experienced a shift in mindset. "It was enlightening to learn about the importance of both automation and human efforts in data management," said Dr. Yamamoto. "Before the training, we would collect every single piece of data without thinking about it, hoping to deal with it later. Now, we think differently. There should be more focus on data collection rather than data science – this is something I learned from CAS."

Clean, quality data is already unlocking value at Toray. Dr. Yamamoto elaborates on the impact of good data management at Toray: "Previously, our team members would have lots of ideas, but no time to test them. Now, using our data, we can create predictive models to validate or invalidate these ideas to innovate more efficiently." Through an ongoing partnership with CAS, Toray Industries is poised to leverage data as a strategic differentiator.

"This deep understanding of scientific information is a big advantage for CAS. We have not been able to learn to manage specialized materials data elsewhere."

UMI YAMAMOTO,
Ph.D., Senior Research Chemist,
Toray Industries

Find out how CAS Custom Services can help you transform scientific data into actionable, evidence-based insights that maximize investment and fuel success at cas.org.

