



The National Institute for Innovation in Manufacturing Biopharmaceuticals

AMERICAN INNOVATION AT WORK

NIIMBL Education/Workforce Development Survey

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Workforce Development Survey Project

- Assess workforce development needs
- Assess most effective training methods
- Assess barriers to industry training

General outline of the survey:

- What workforce development needs are most critical to your success?
- When training your existing workforce, what delivery method is most effective for you?
- For your organization's professional engineers and scientists, what is the area of greatest need for training?
- For your organization's technicians and operators, what is the area of greatest need for training?
- What are your organization's most significant limitations or barriers to training?

Where the polling was done

Both real-time and on-line polling

R

Regional Meeting Polling

Real-time polling done at 5 regional meetings

- Mix of large and small companies, academia, government, non-profits
- Meeting 1: single session
- Meetings 2-5: separate 'Industry' and 'Academic' sessions

Q

Qualtrics Industry Survey

On-line survey sent to 207 industry representatives

- Mix of small and large companies (responses anonymous, so final composition unknown)
- Regional Meeting attendees, companies who had provided letters of support for application, and/or who had been recently contacted for outreach (n=49 respondents)

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Combined Survey Data

Pooled data from some Regional Meeting sessions and Qualtrics survey

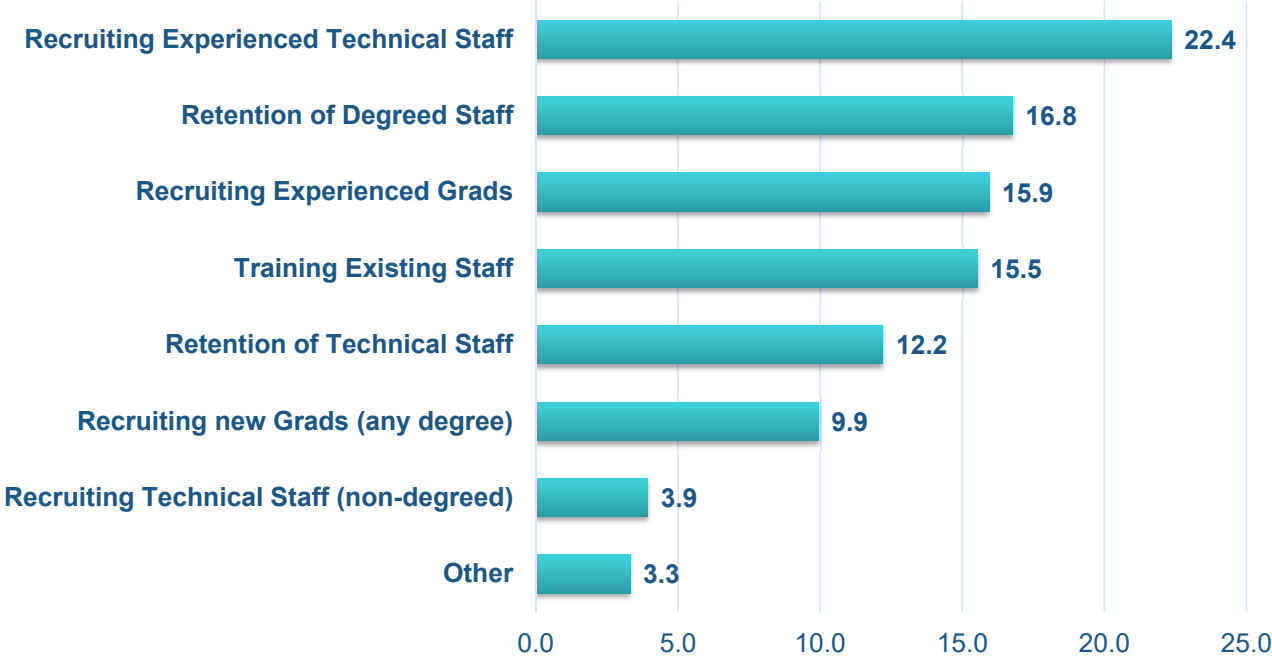
- Regional Meeting 1 and Meetings 2-5 'Industry' session data included

Profile of survey respondents

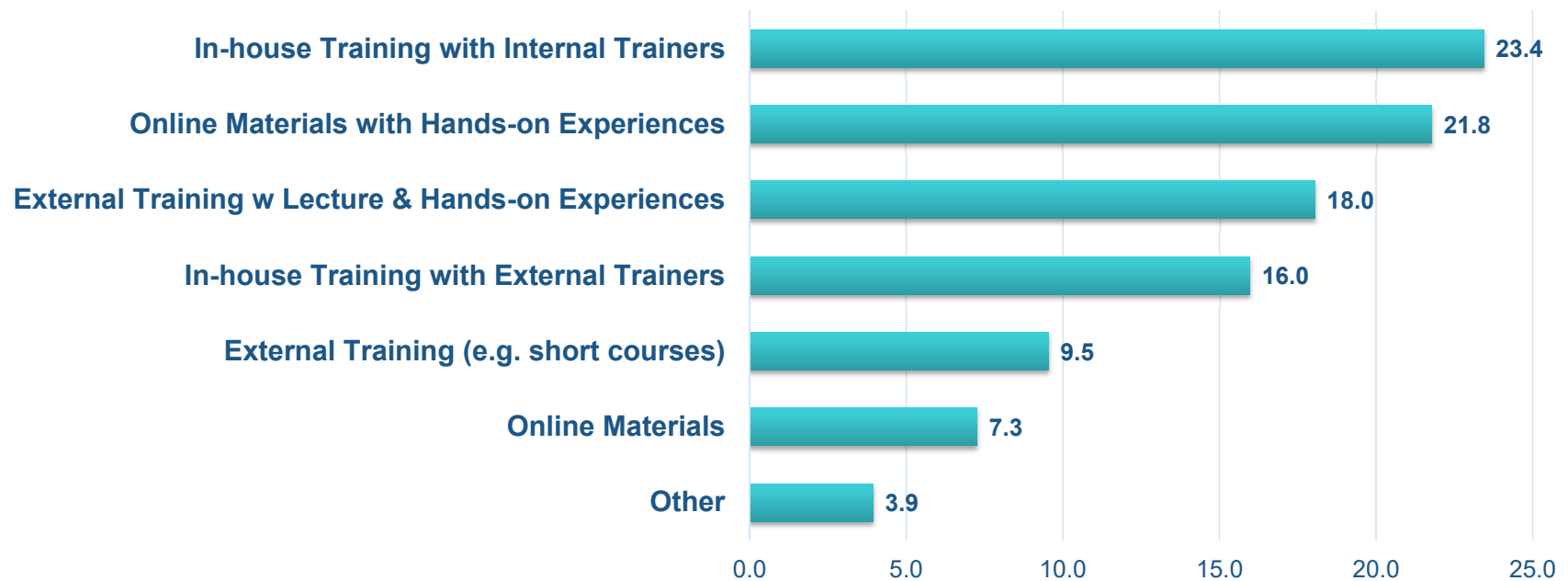
Poll	Industry	Academia	Government / Non-profit	Total
Regional Meeting	73	24	25	122
Qualtrics*	49	0	0	49
Total	122	24	25	171
Total (%)	71.3%	14.0%	14.6%	99.9%

*Note: the Qualtrics survey was sent to 207 industry contacts, 143 (69.1%) of these were industrial Regional Meeting attendees; remaining were contacts from NIIMBL application/outreach efforts

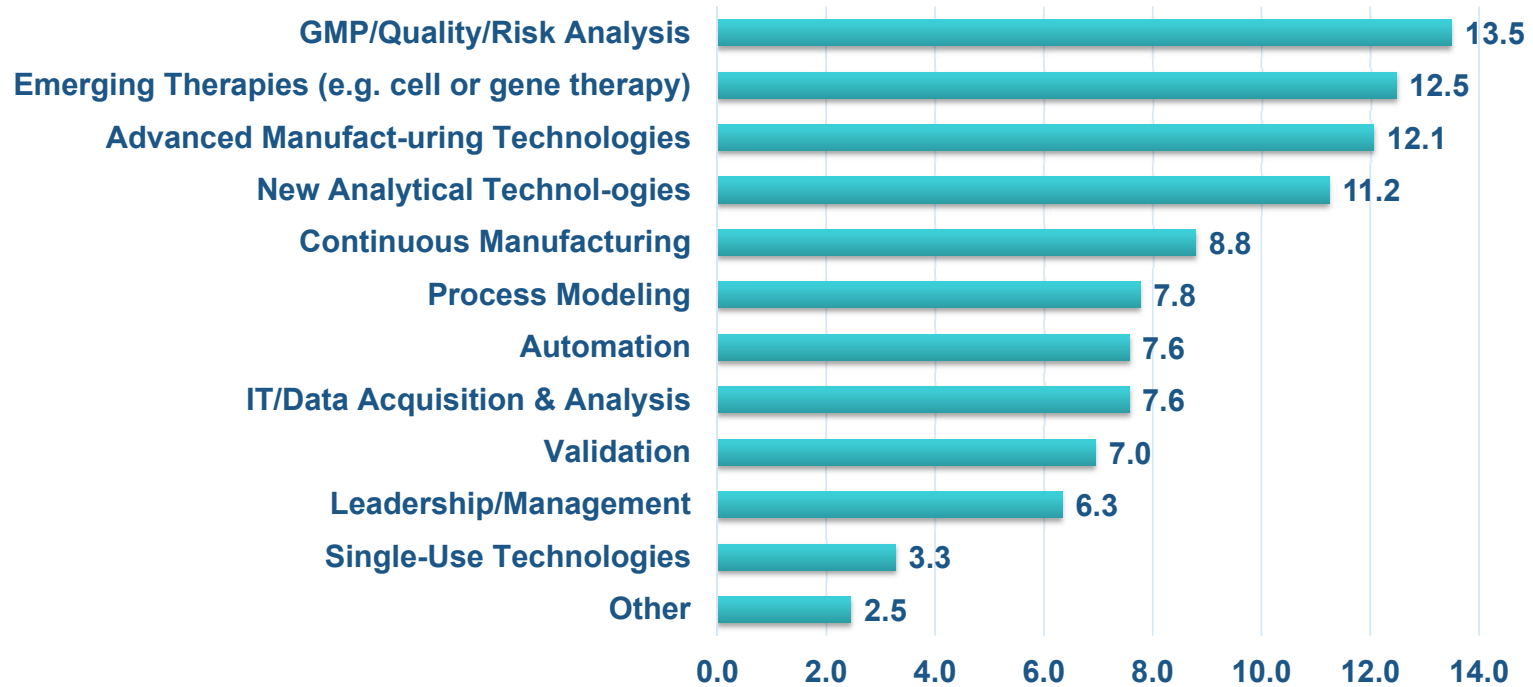
Which workforce development needs are most critical to your success? (choose 4)



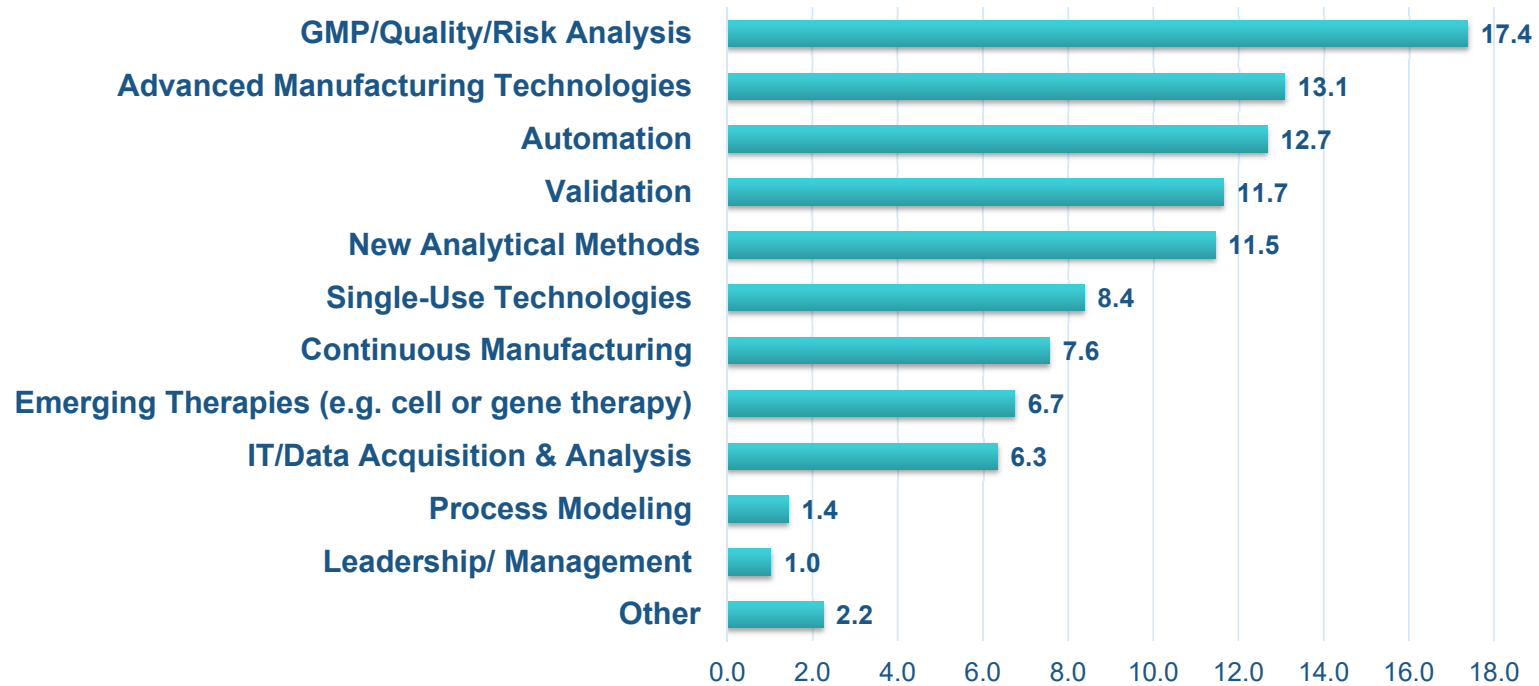
When training your existing workforce, what delivery method is most effective for you? (choose 4)



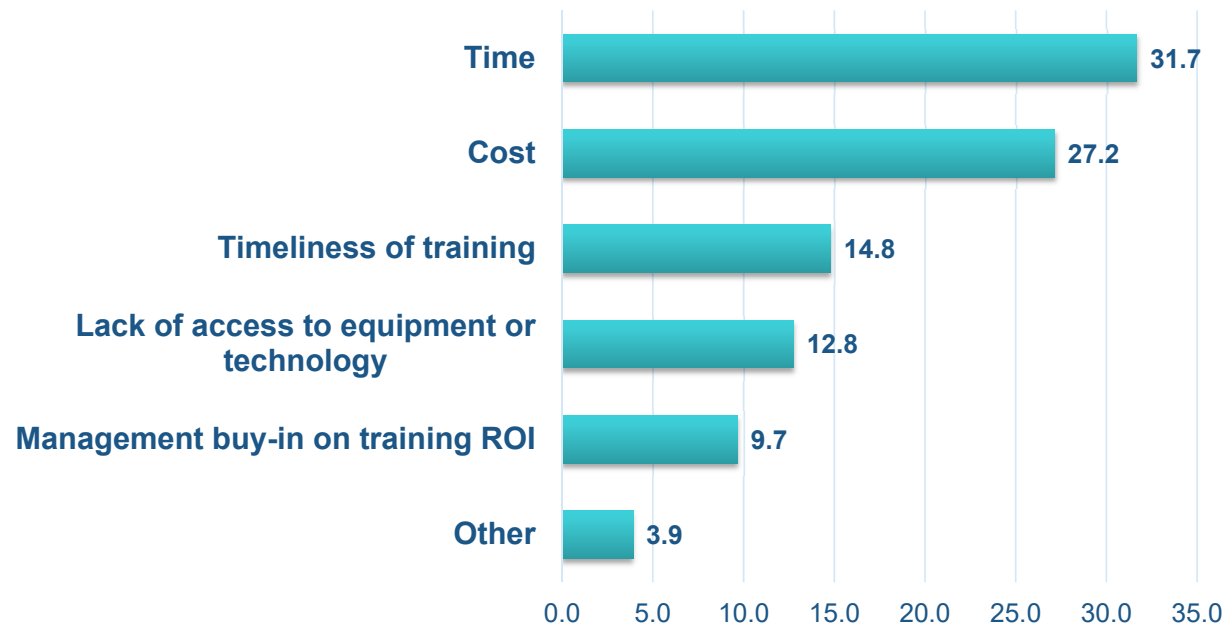
For your organization's professional engineers and scientists, what is the area of greatest need for training? (choose 4)



For your organization's technicians and operators, what is the area of greatest need for training? (choose 4)



What are your organization's most significant current limitations or barriers to training? (choose 4)



Conclusions

- **Training method**
Most effective is conducted **internally** by both internal & external personnel, but also **hands-on experiences with on-line or lectures or materials** is valuable.
- **Recruitment**
Industry would like to hire **experienced technical staff**, and then **recruit, train and retain experienced graduates, and existing technical staff** .
- **Training needs for engineers & scientists**
More focus on **GMP, Quality, Risk Analysis**, followed closely by **emerging products and new analytical technologies**.
- **Training needs for operators & technicians**
Focus on **GMP, Quality, Risk Analysis**, as well as **advanced manufacturing technologies, automation, validation, and new analytical methods**.
- **Limitations**
Time and cost. Timeliness of training as well as **lack of access to equipment or technology** and **lack of management buy-in**.