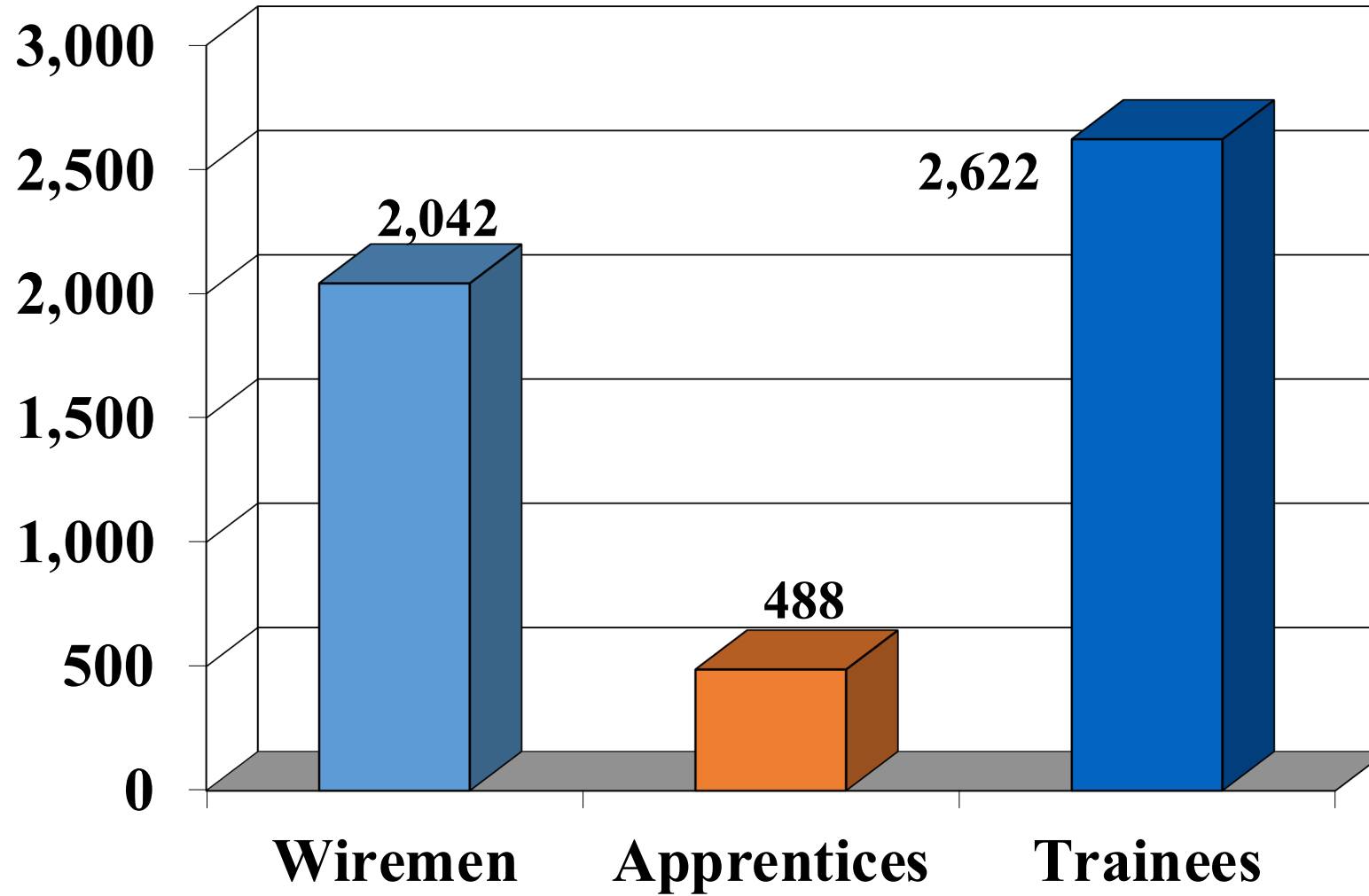


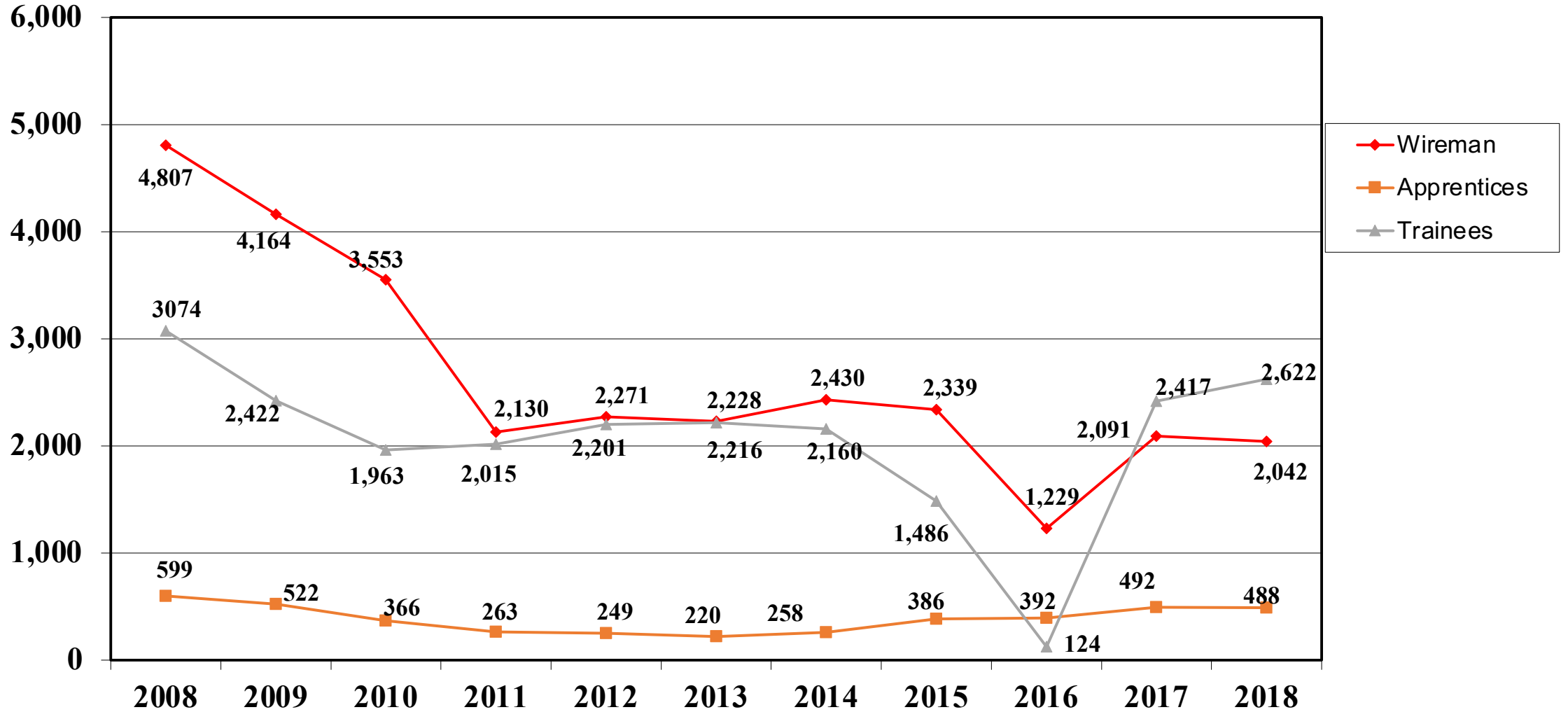


2018 Residential Survey

Residential



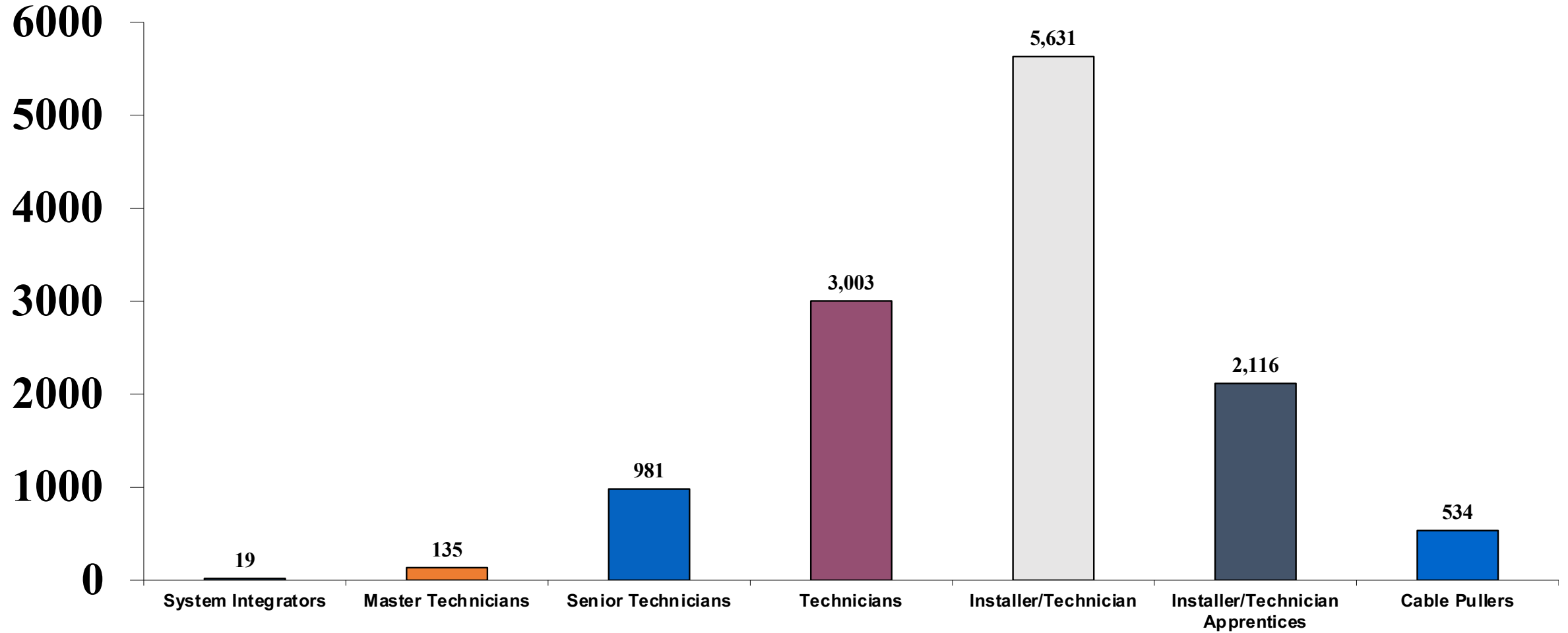
Total Residential (2008-2018)



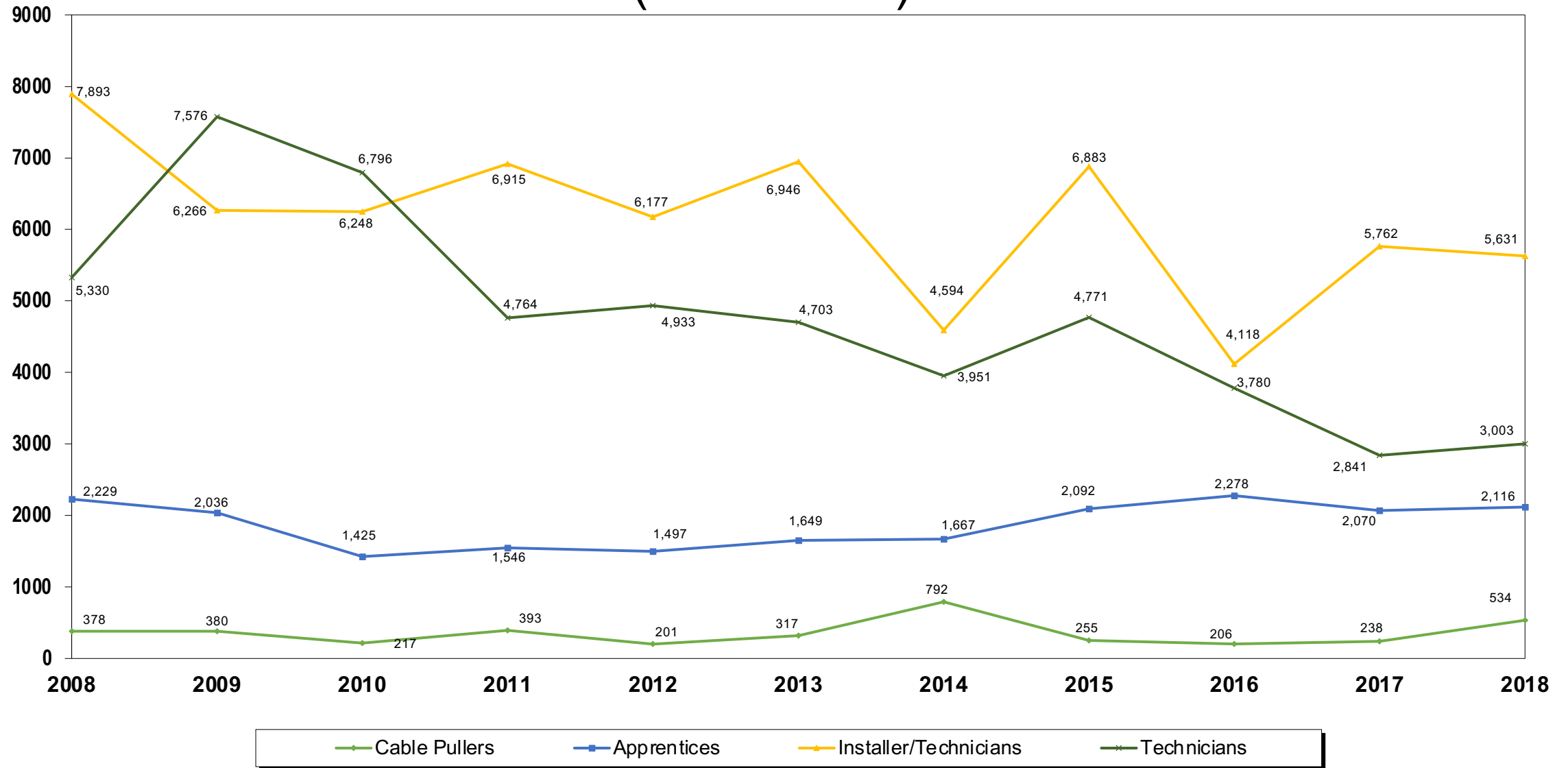


2018 Installer/Technician Survey

Telecommunications (VDV)



Installer/Technician Totals (2008-2018)





2018 Outside Annual Survey

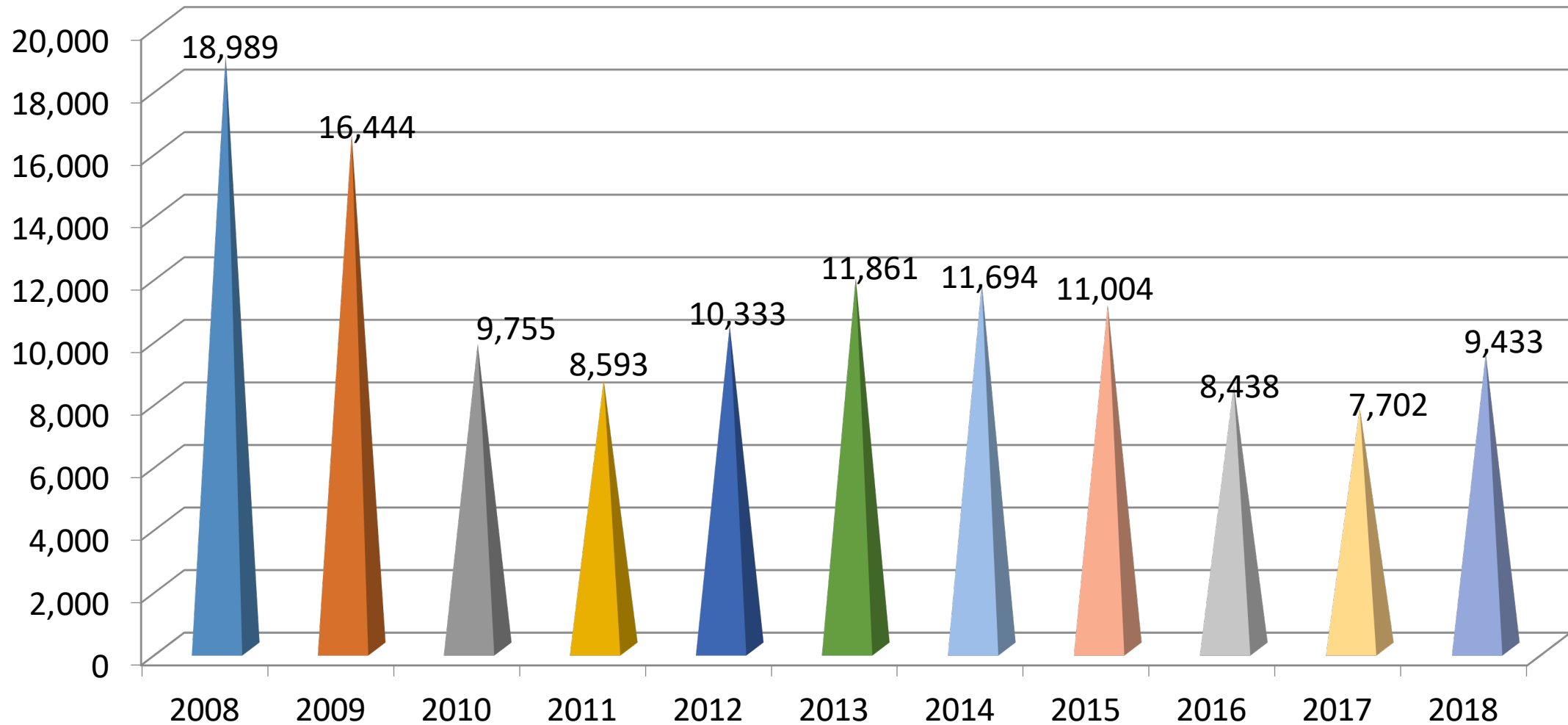
Application Forms Issued in 2018

9,433

As compared to 7,702 in 2017 and 8,438 in 2016

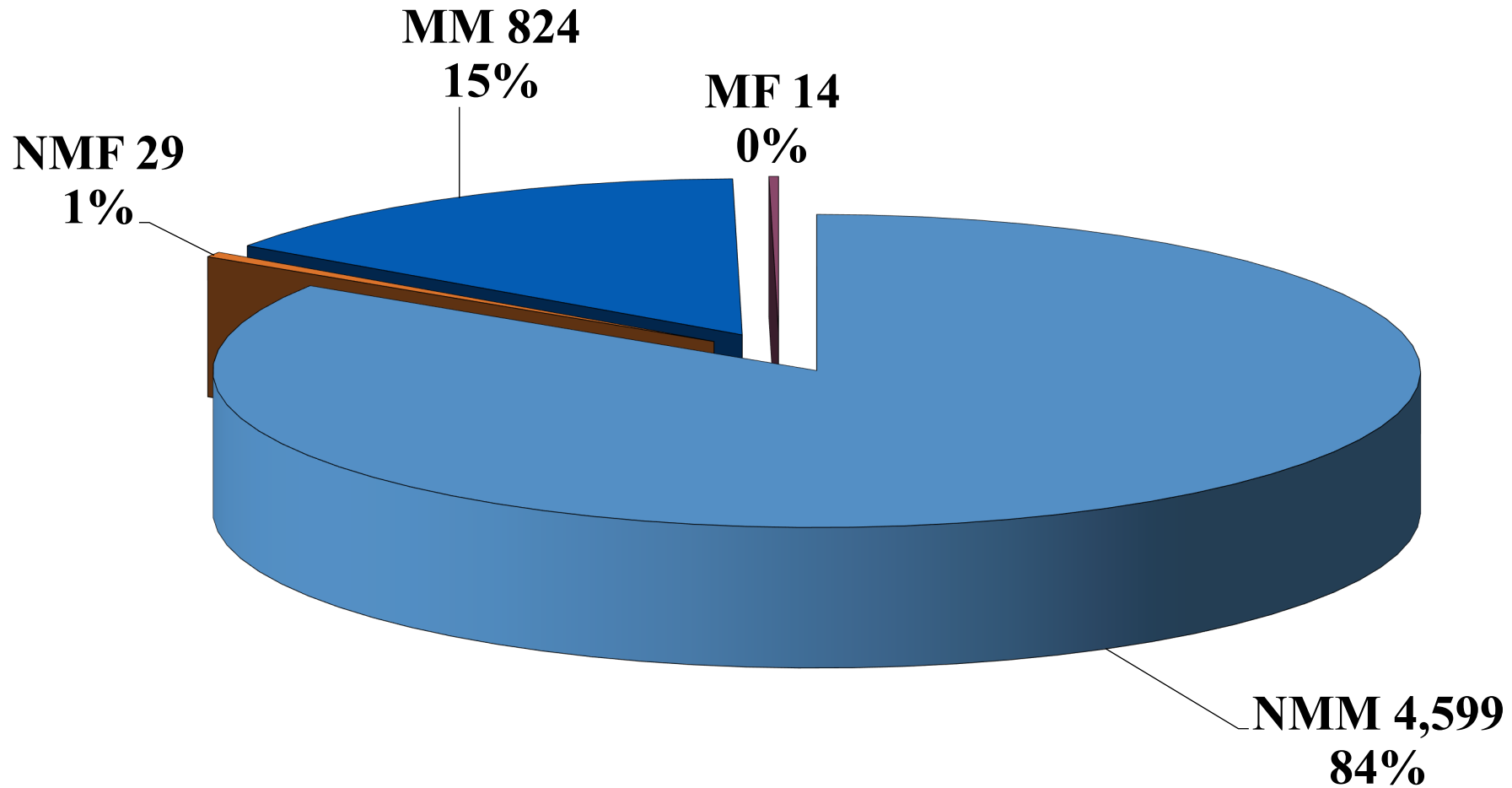
Applications Issued

2008 - 2018



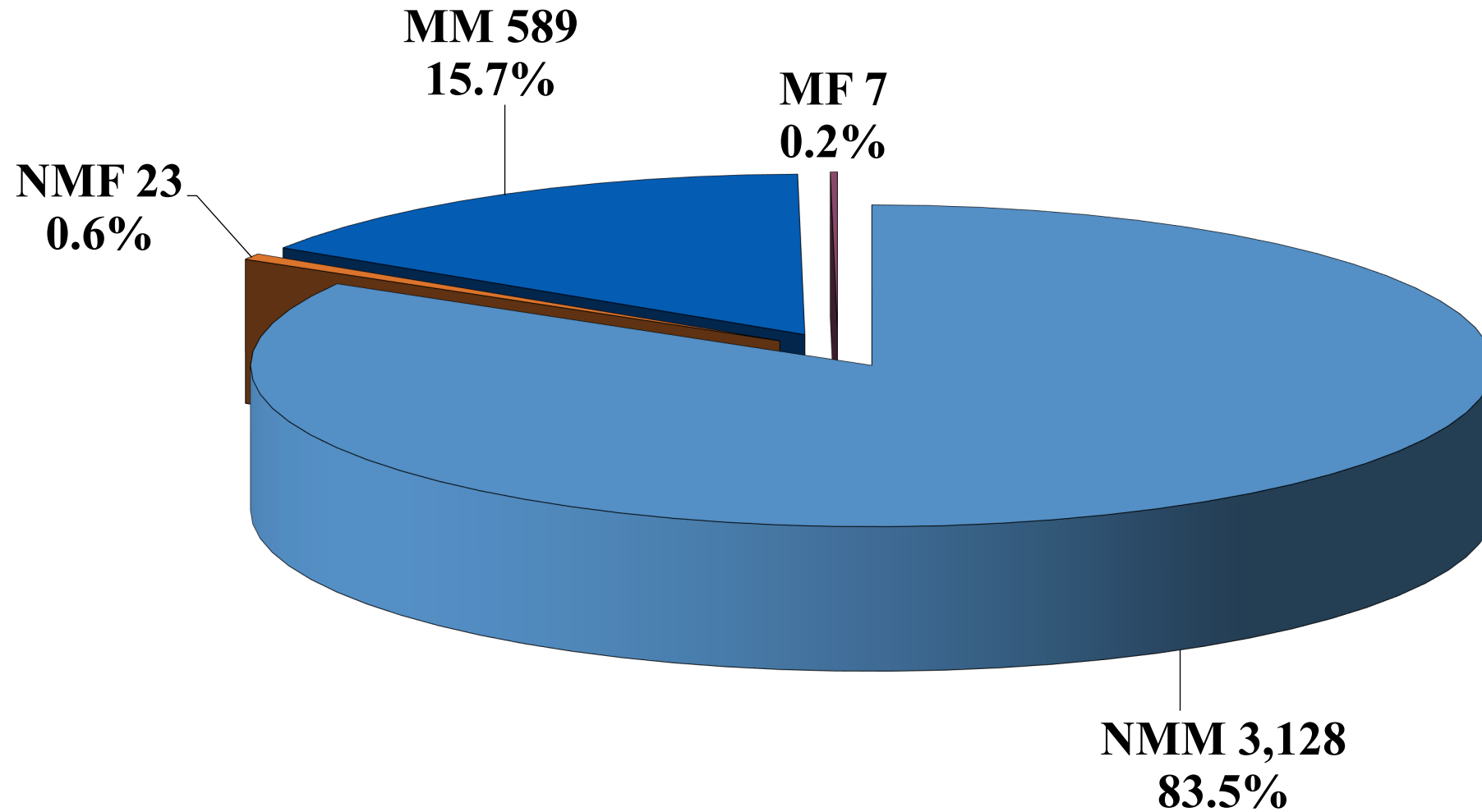
Qualified for an Interview

(Total = 5,466)



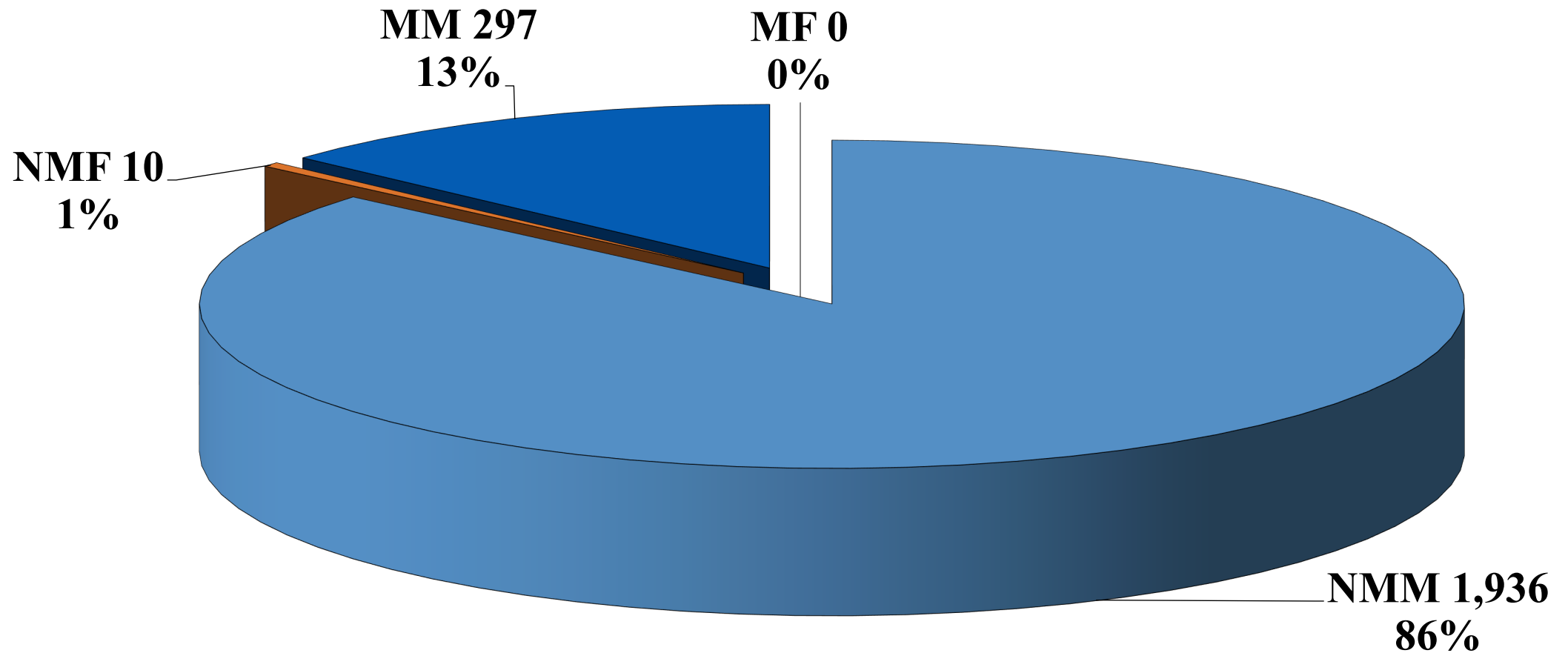
Applicants Interviewed

(Total Interviewed = 3,747)



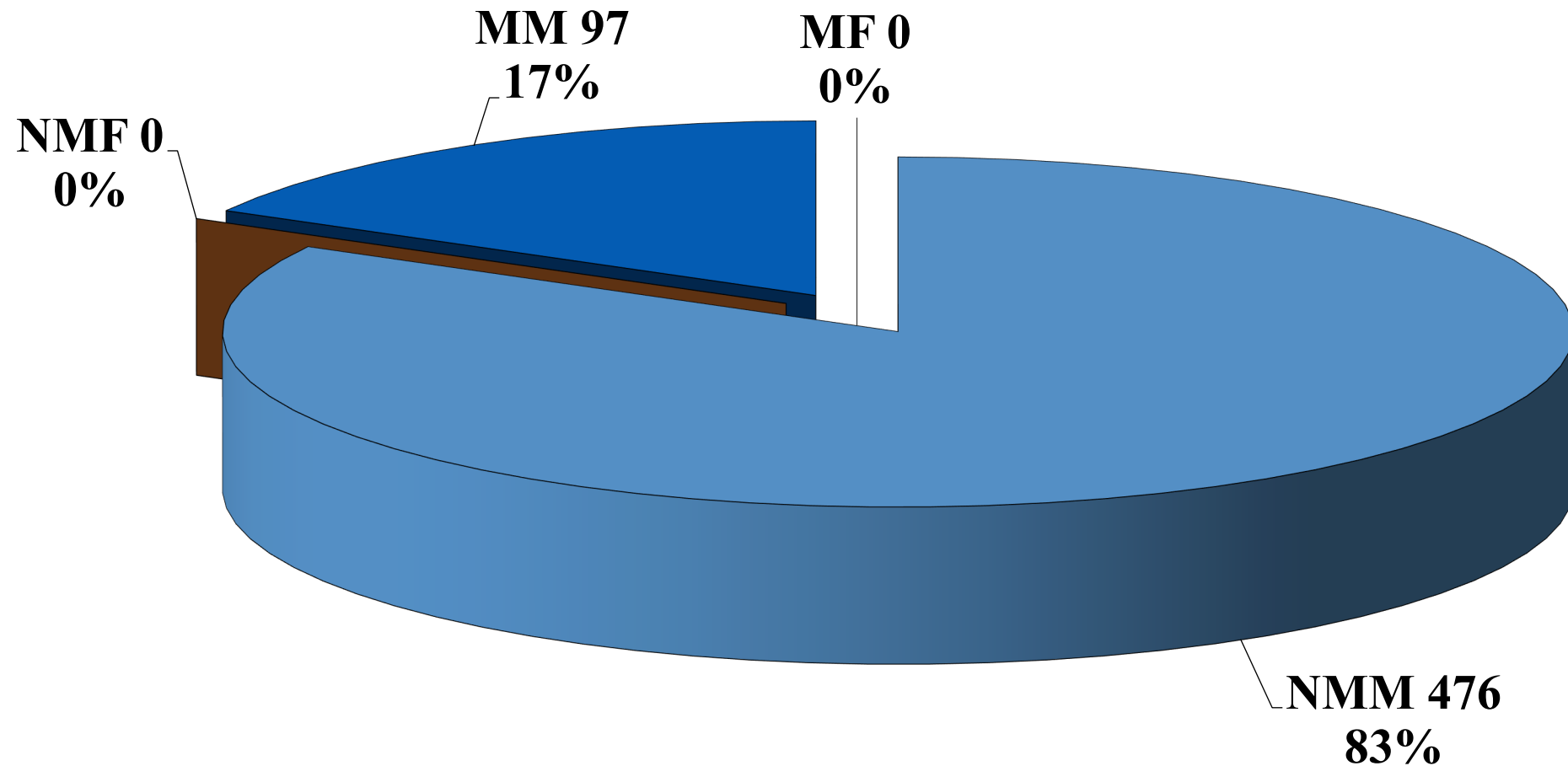
Total Indentured

(Total = 2,243)



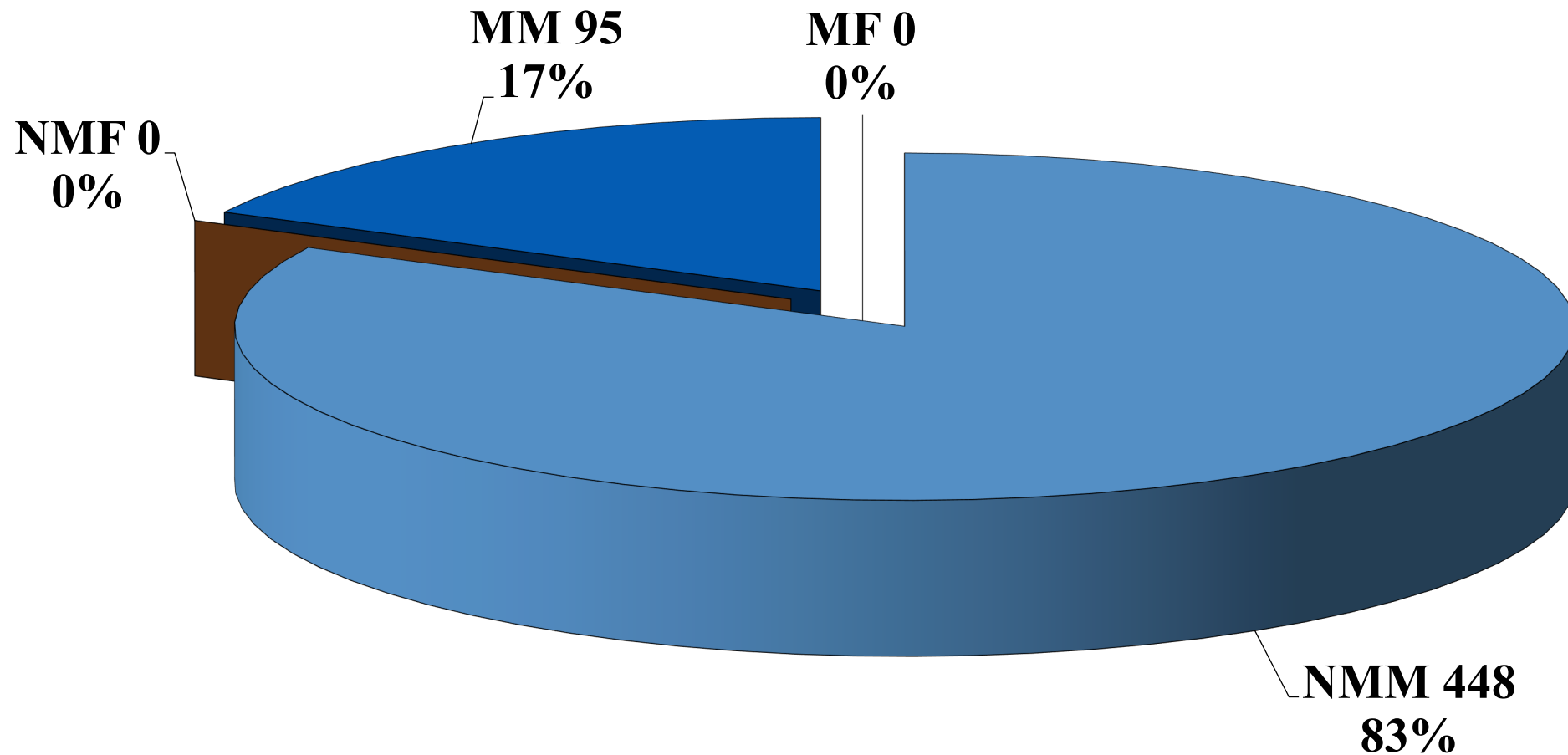
Line College/Line School Graduates Offered Apprenticeship

(Total = 573)



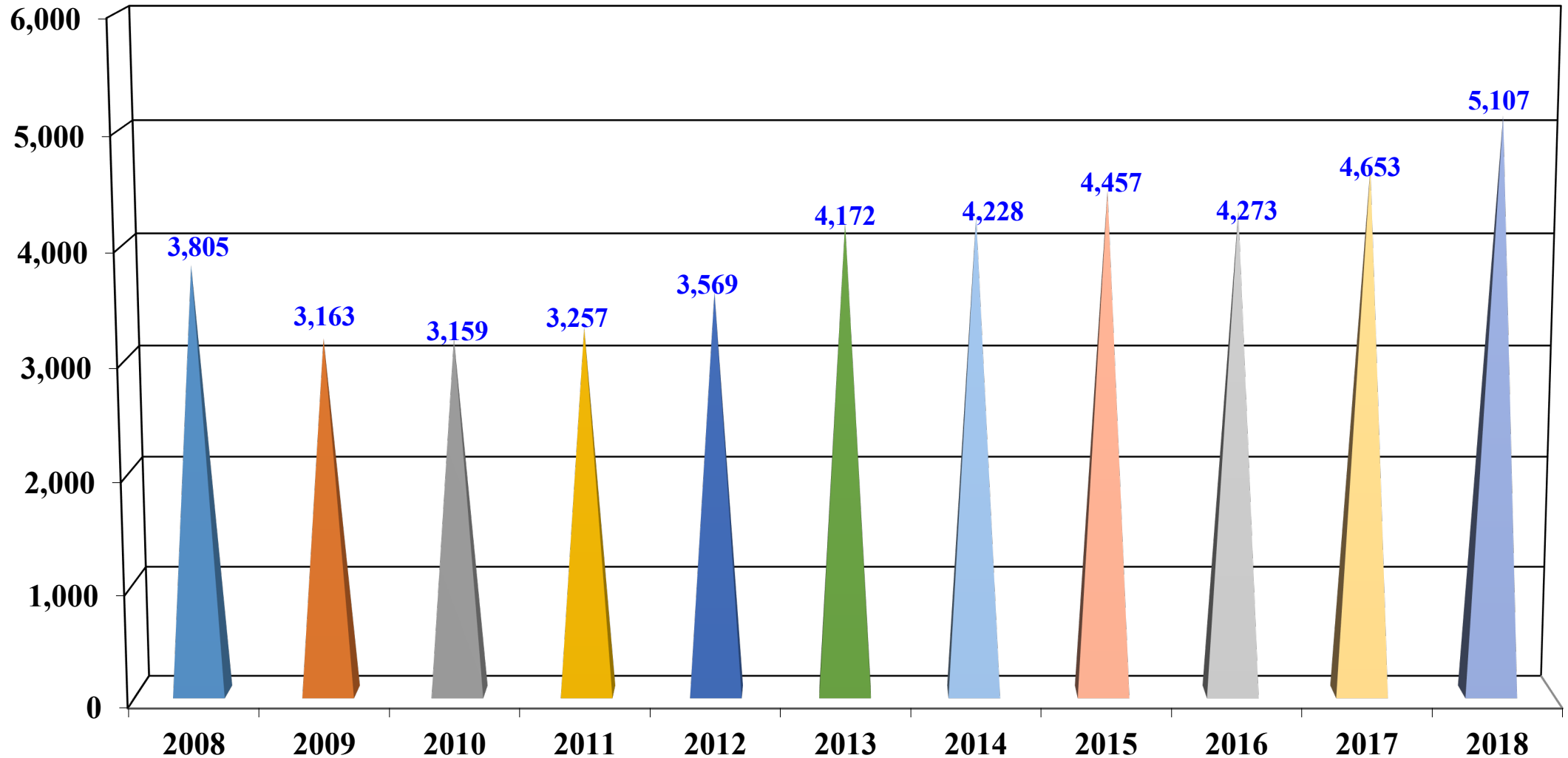
Line College/Line School Graduates Accepted Offered Apprenticeship

(Total = 543)



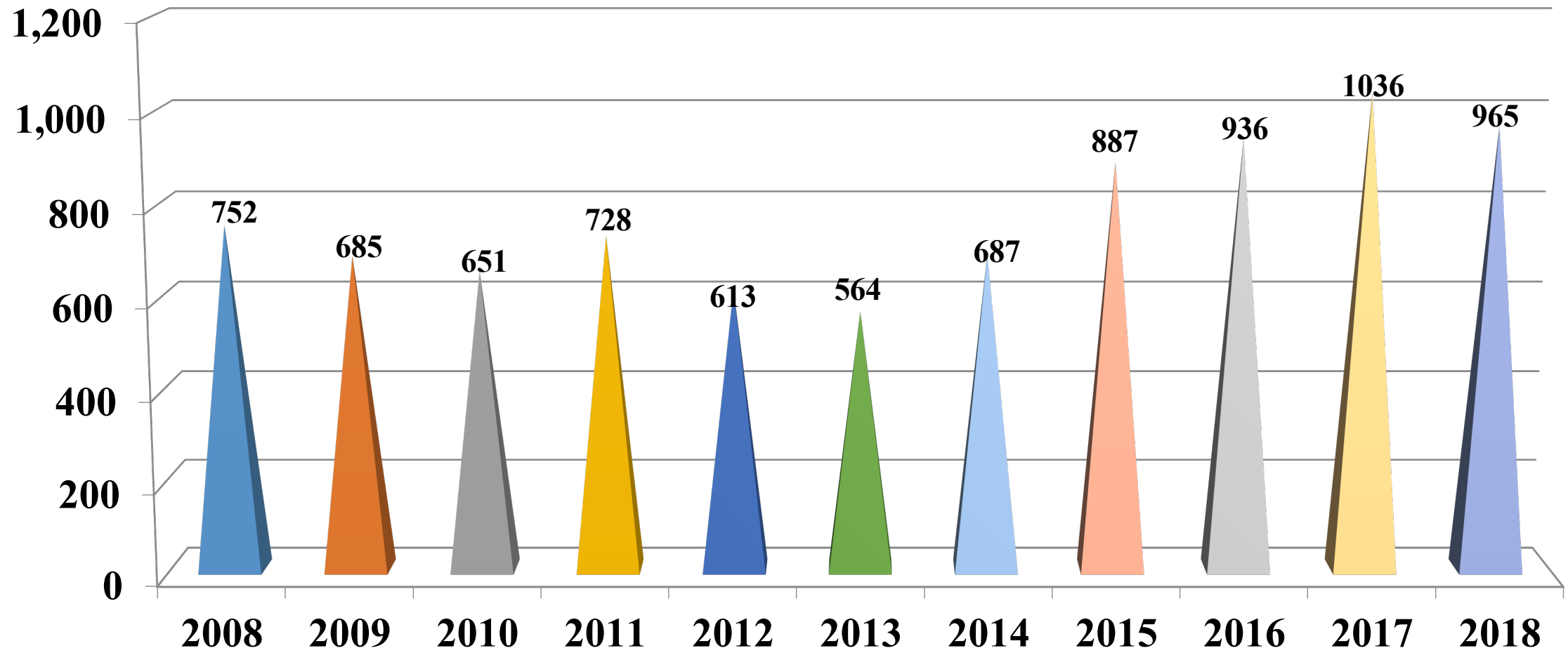
Total Active

(2008 - 2018)



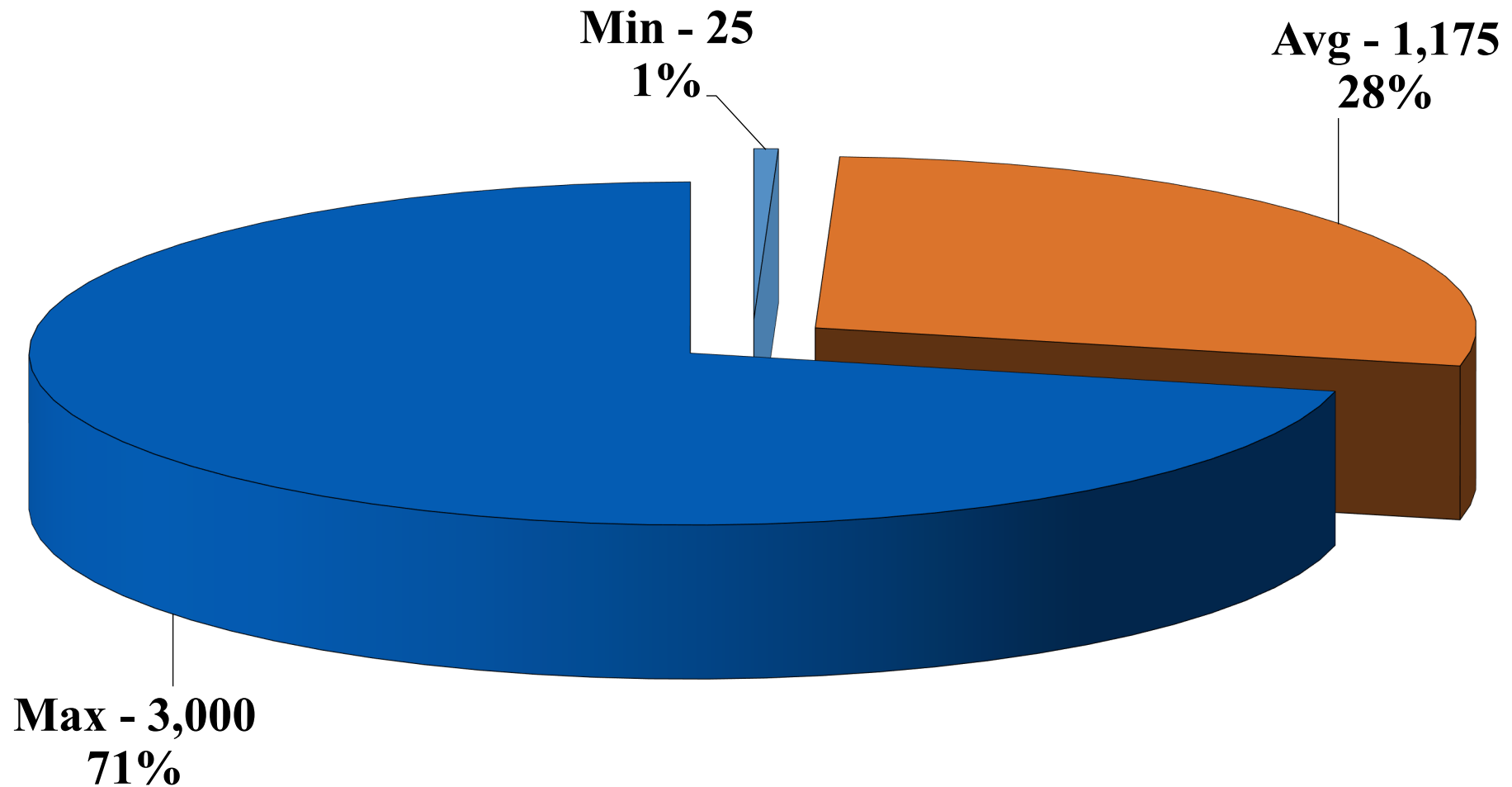
Total Graduated

2008 - 2018



IBEW Members Requiring Crane Operator Training

Total = 9,400





2018 Inside Survey

N=237

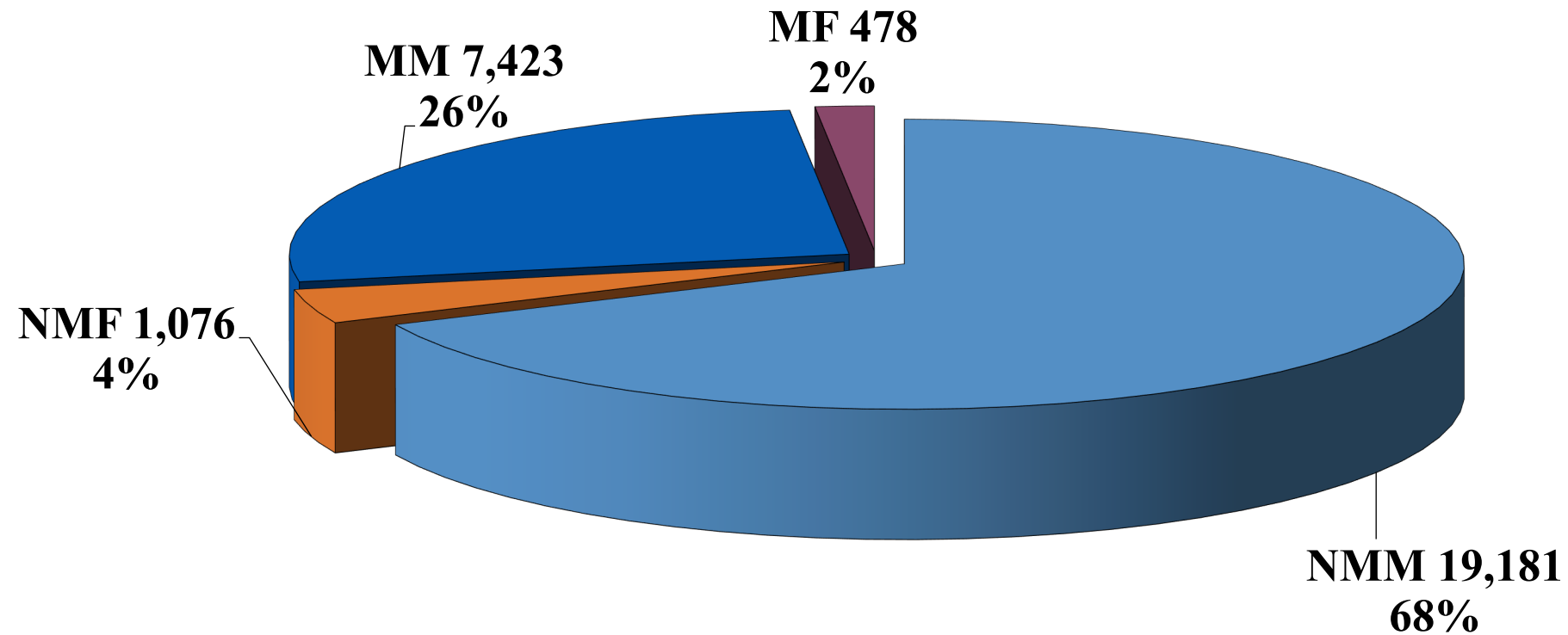
Application Forms Issued in 2018

67,127

As compared to 66,255 in 2017

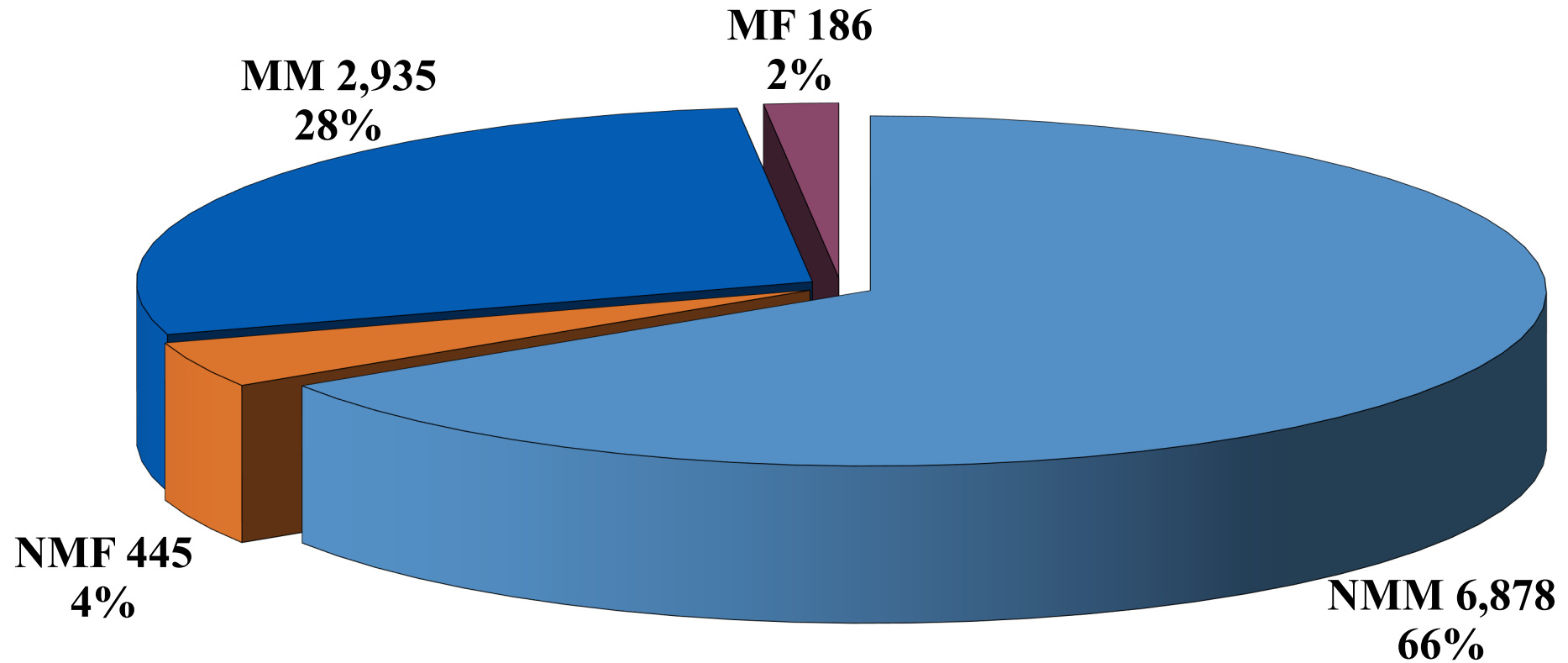
Applicants Interviewed in 2018

(Total = 27,680)



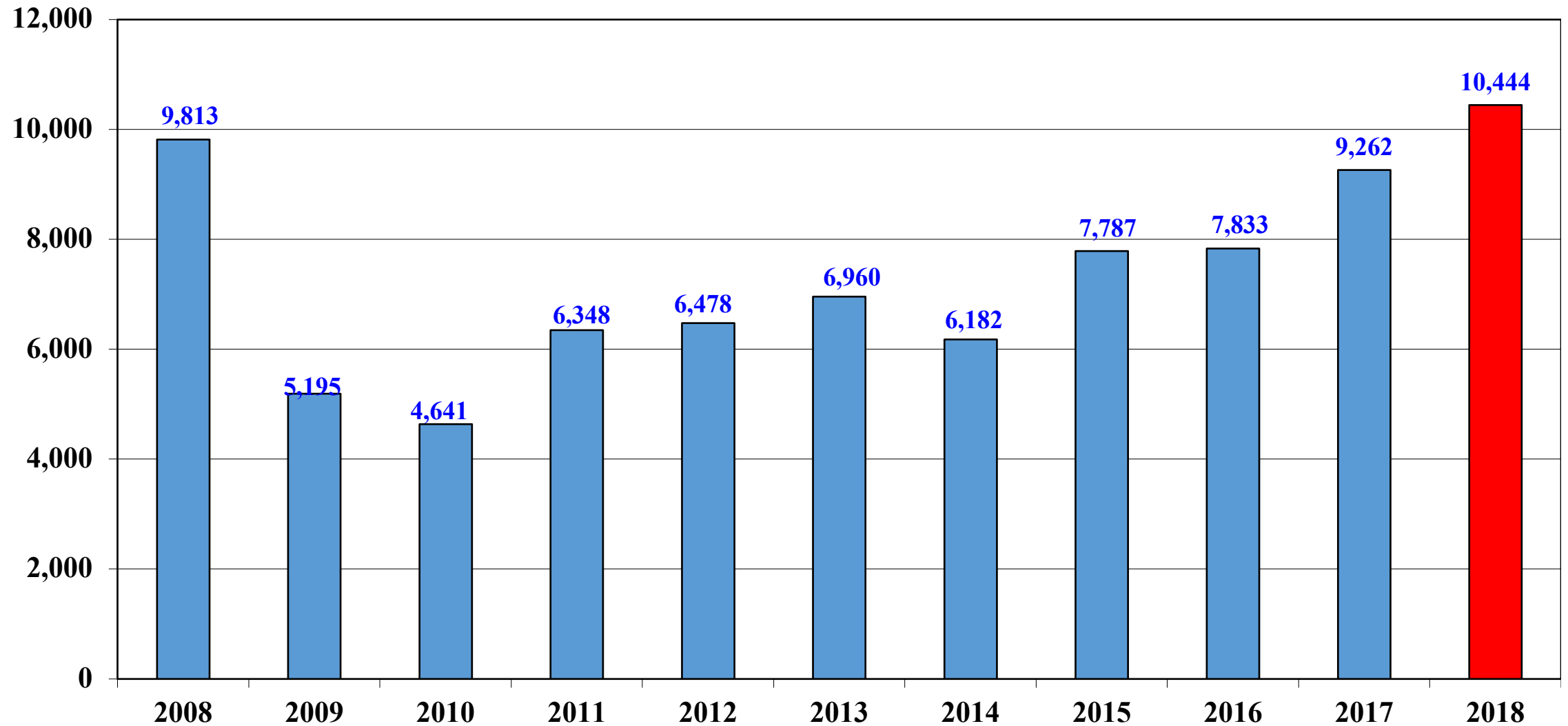
Total Indentured 2018 Inside Wireman Apprenticeship Program

(Total = 10,444)



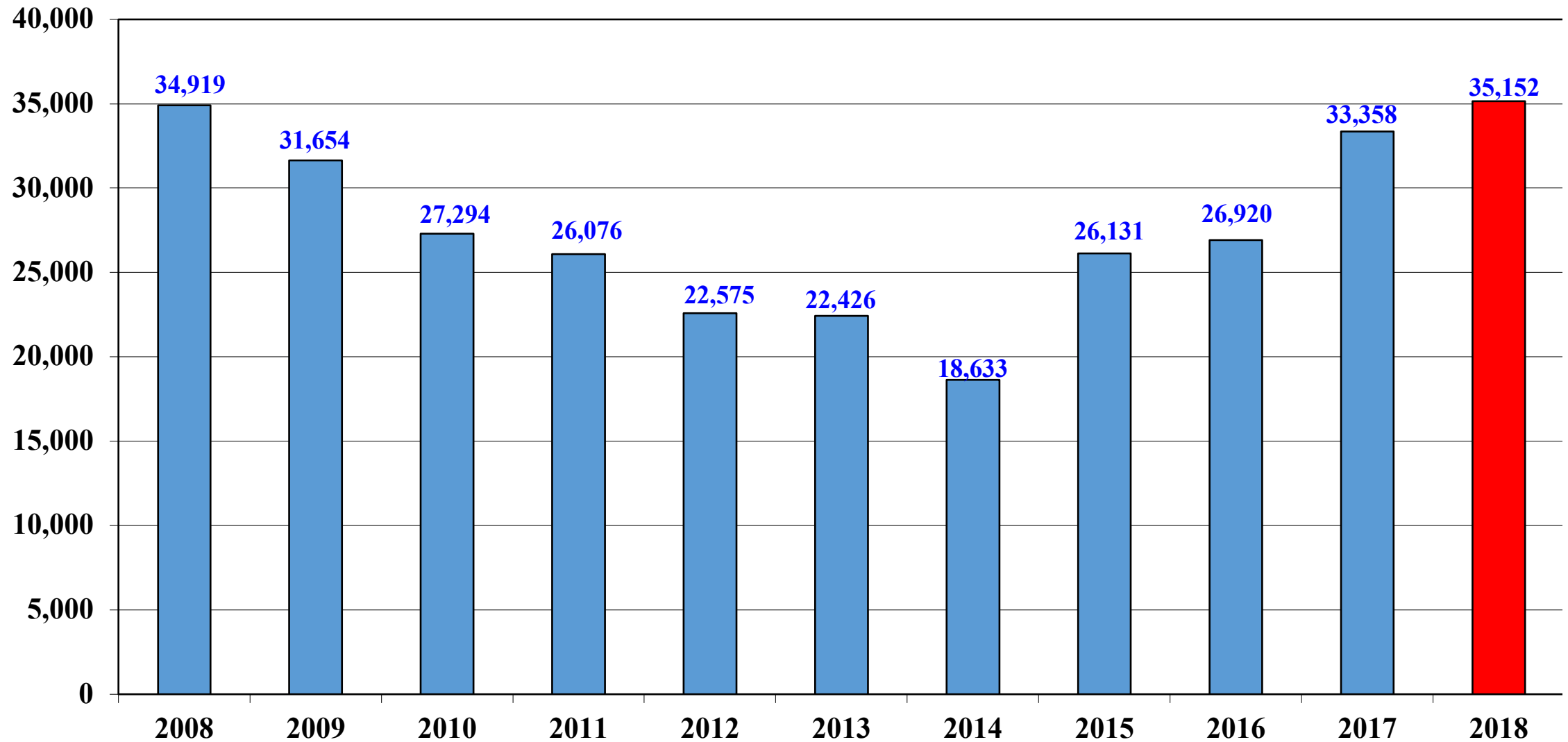
Apprentices Indentured

(2008- 2018)



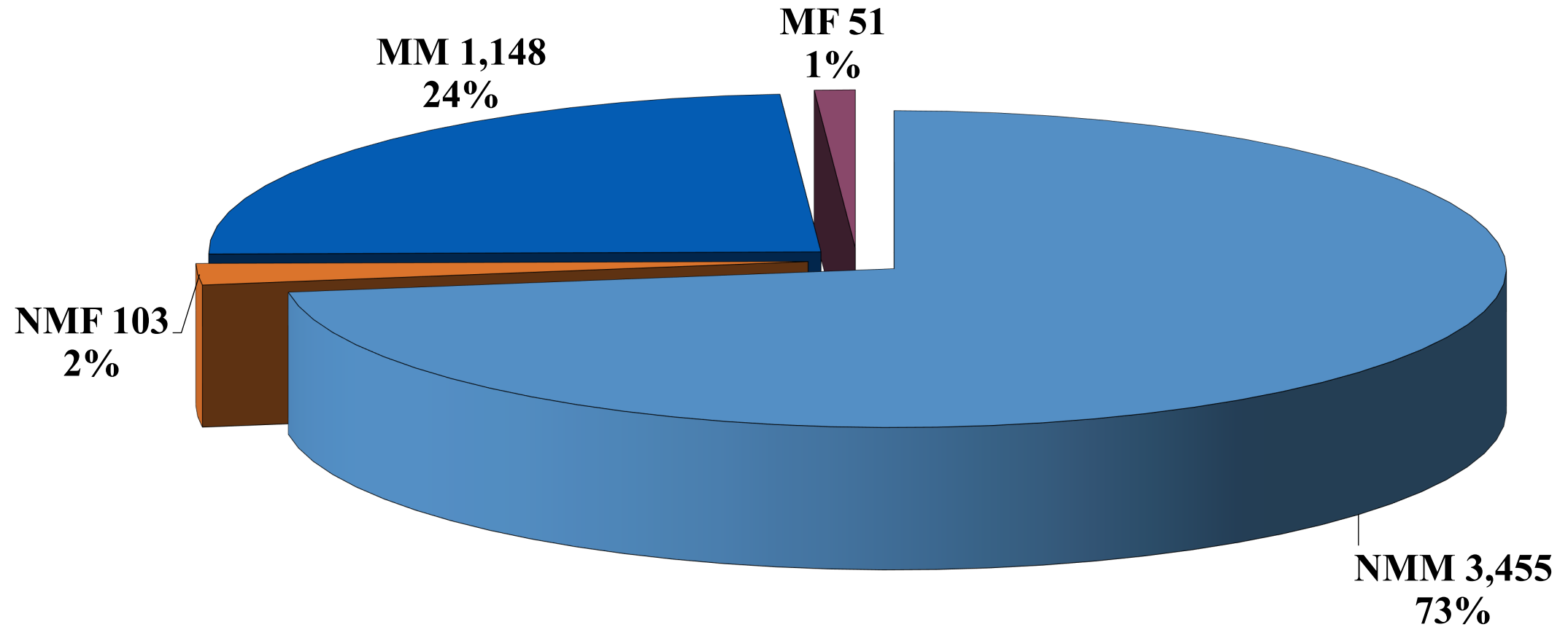
Total Active Apprentices

(2008 - 2018)



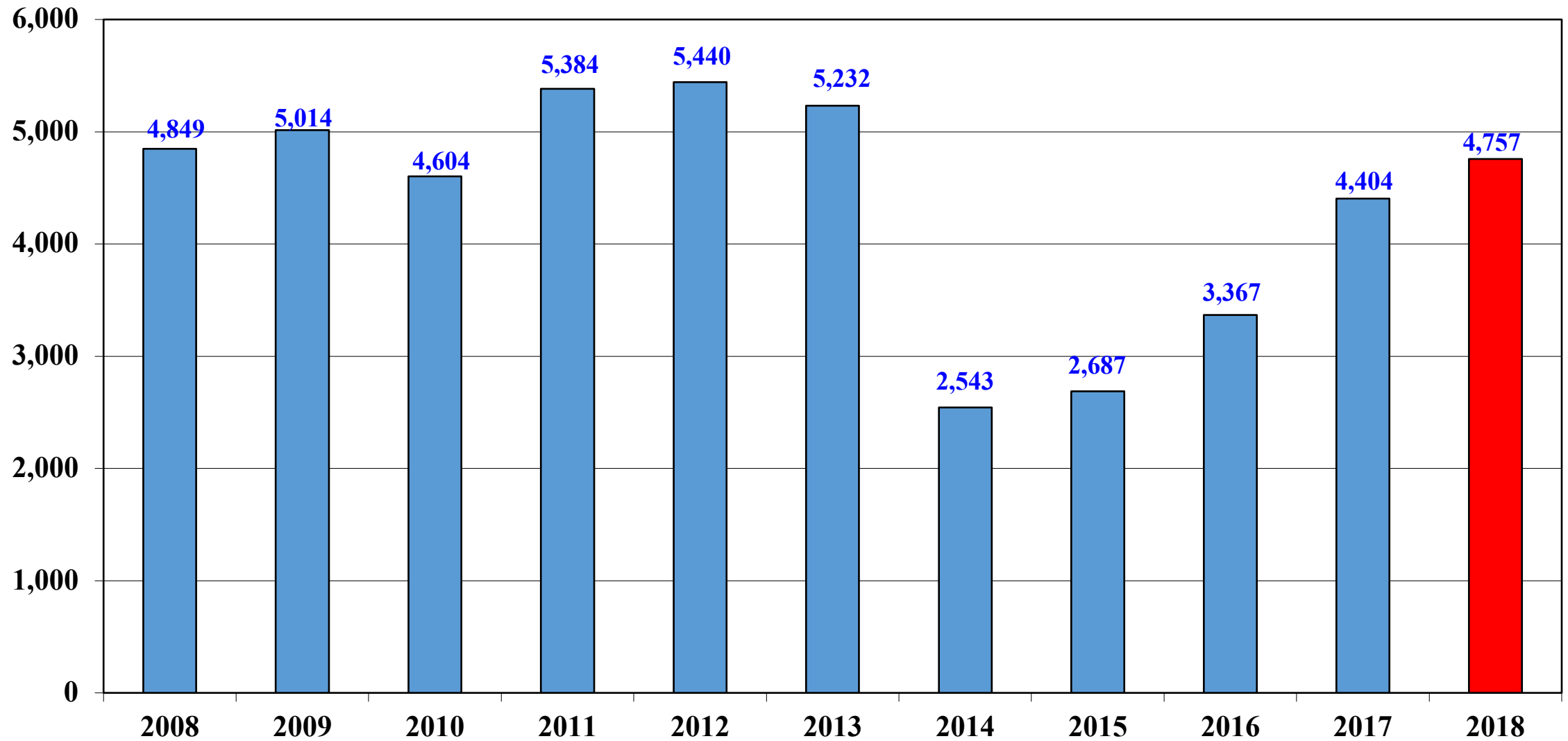
Apprentices Graduating in 2018

(Total = 4,757)

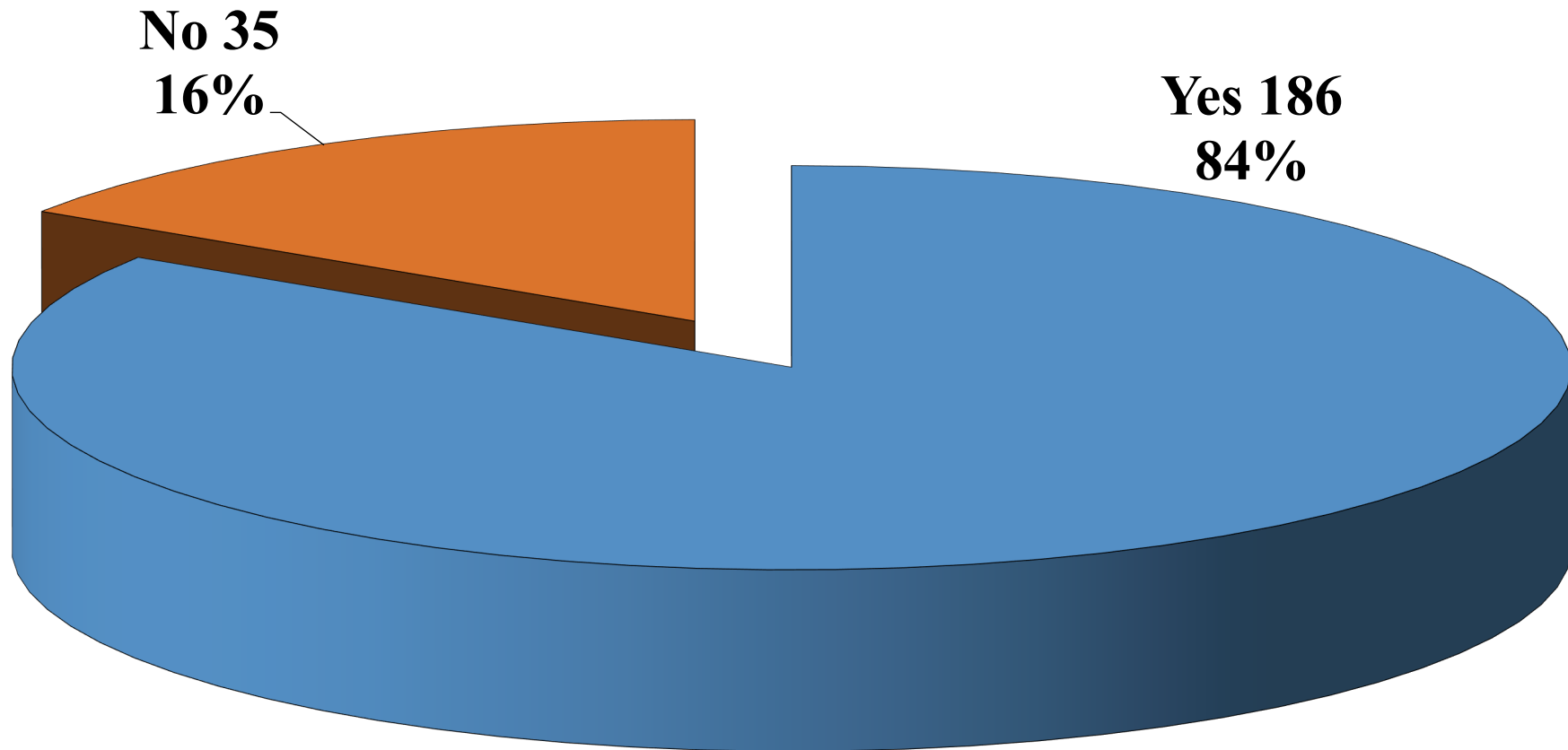


Completed Apprenticeship

(2008 – 2018)



Year-Round Applications



- Standards Update- 2019 National Guideline Standards @ DOL:
 - EEO laws and 29.30 changes
 - New EEO Plan
 - New Affirmative Action Plan
 - Conducting Harassment Investigations



COMPUTER MEDIATED LEARNING

A QUICK HISTORY

1800

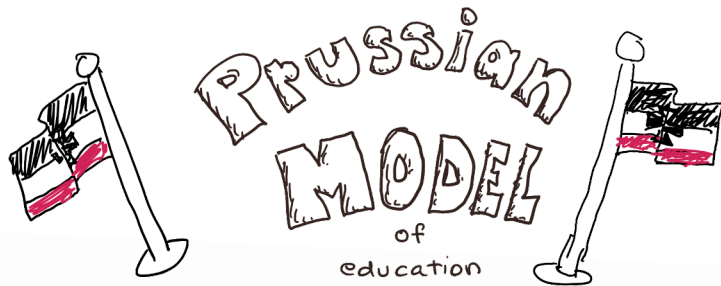
1840

1870

1892

1900

2000



- Up until this point, only the wealthy elite received education.
- The Prussians changed the system to offer education to all in order to better society.
- An industrialized system of education.



A QUICK HISTORY

1800

1840

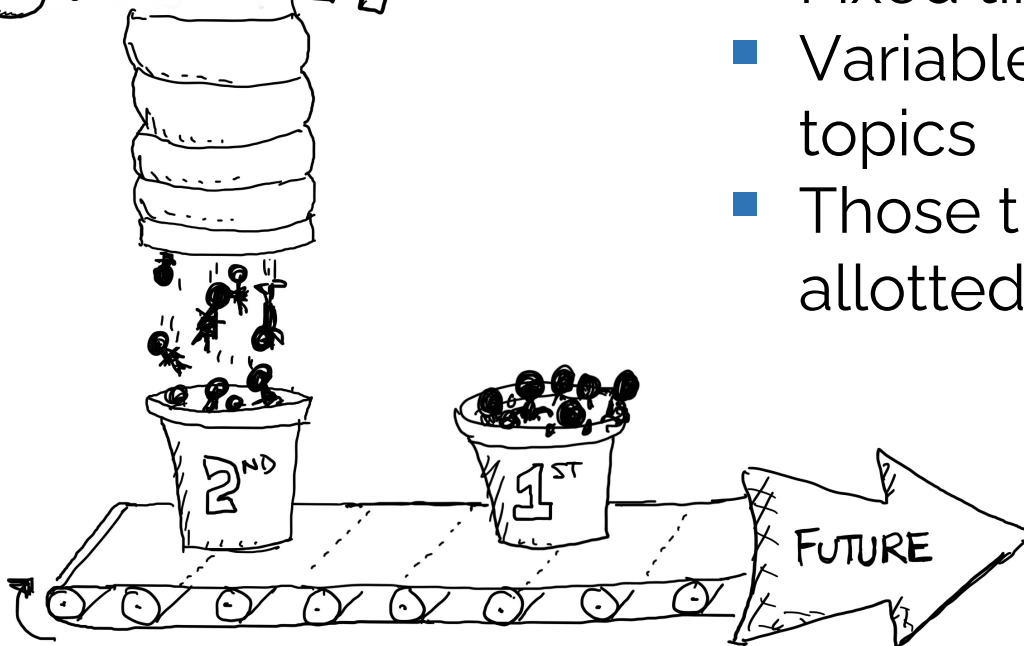
1870

1892

1900

2000

INDUSTRIAL
SYSTEM



- Students grouped by age into grades
- Fixed time to learn
- Variable how long individuals take to learn topics
- Those that don't learn effectively within the allotted time are pushed forward regardless

A QUICK HISTORY

1800

1840

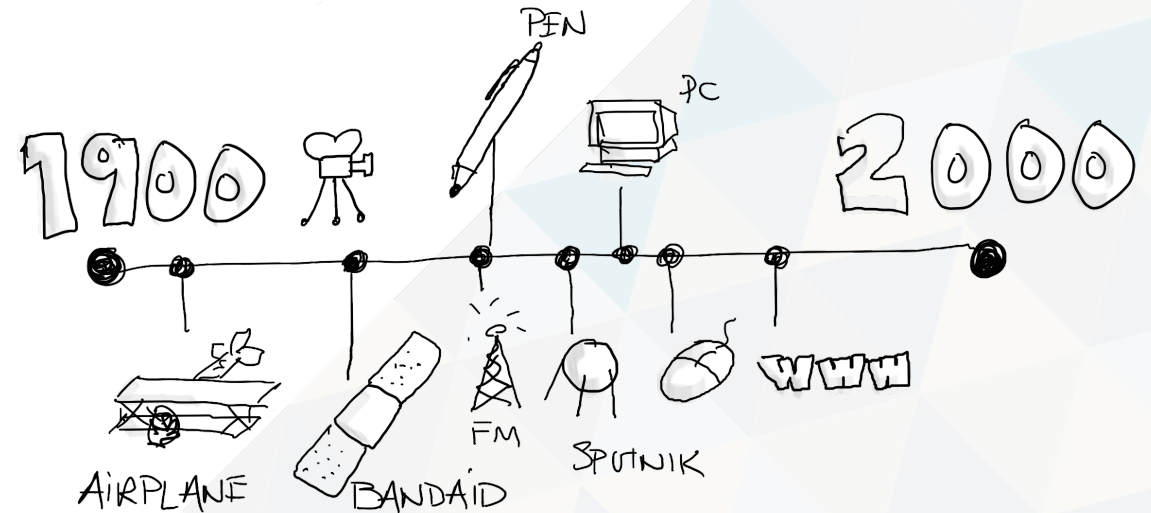
1870

1892

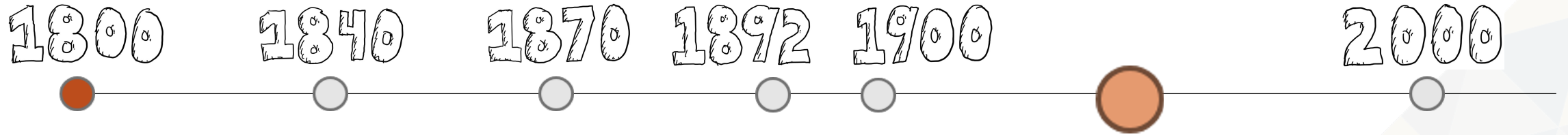
1900

2000

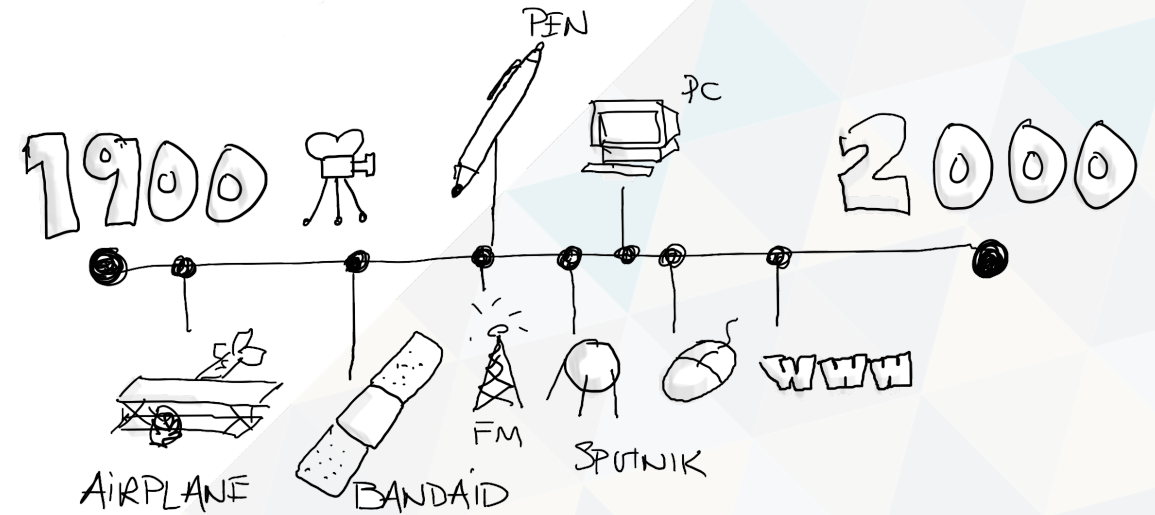
- Innovations since the 1900's have been dramatic, yet the education model has largely remained the same.



A QUICK HISTORY



- NJATC created before instructional tools available today were available.



BENEFITS OF CHANGING THE MODEL



SCALE



EFFICIENCY



INCREASED/FOCUSED LAB TIME



EVALUATIONS



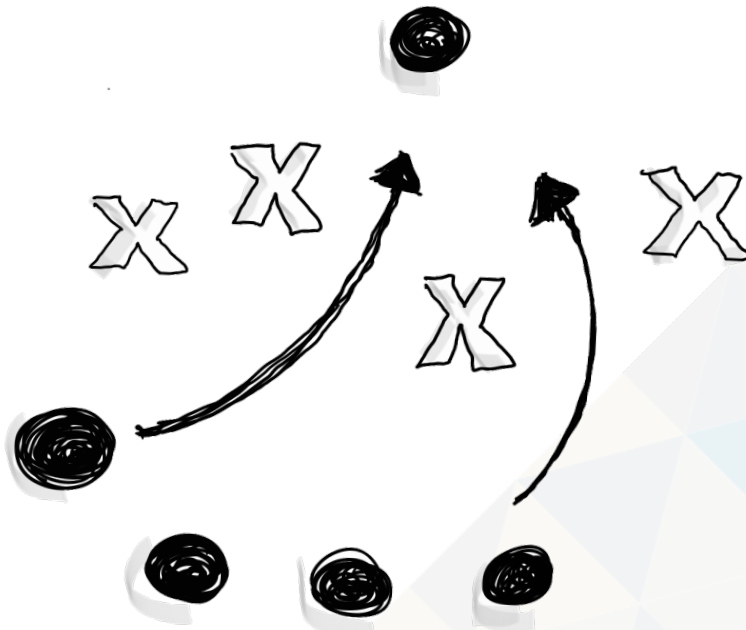
JUST IN TIME LEARNING



LEARNING OWNERSHIP

CML PROJECT PLAN

Whats the Plan?



PROJECT PLAN

- Course/Project Description
- Computer Mediated Level
- Audience
- Project Mission (Why?)
- Creative Aspects (Dreams/Goals)

What are we
assessing the
students on?



Why is it important to
the IBEW/NECA?
What outcomes
should we expect?

What content will support that
assessment?

A SHIFT IN FOCUS

- Student Centered Focus
 - Historically the curriculum has been created for the Instructor.
 - Audience for CML is centered on the individual student.



A SHIFT IN FOCUS

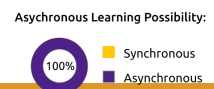
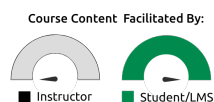
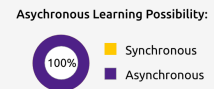
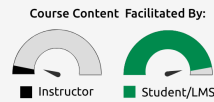
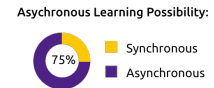
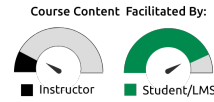
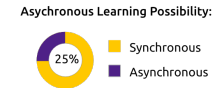
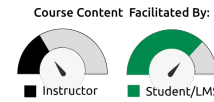
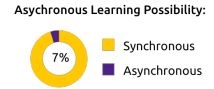
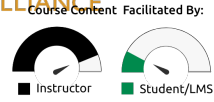
- Student Centered Focus
 - Learners can learn to use computer technology to produce knowledge, rather merely reproduce pre-existing notions held by the instructor.
 - The level of knowledge derived from learning through the use of computers drives the dynamic transaction between the technology and the learner.

LEVELS OF COMPUTER MEDIATED LEARNING

- Areas of Instructor Facilitation vs. Computer Mediated Learning
 - Education / Training Levels
 - Course Introduction (Description)
 - Exploration / Lesson References
 - Training Content (Formative)
 - Adaptation (Lesson Review)
 - Summative (Test Generator - Exams)
 - Retrospective (Test Review)

LEVEL 0

[*Job Info]



Education / Training Levels

- The Minimum | Blended Learning and the LMS
- Almost fully instructor Facilitated
- Synchronous Training

- Use of an LMS to control scripted progression
- Only Light Instructor Interpretations
- Either Synchronous or Asynchronous

- Use of an LMS to control scripted progression
- Almost no Instructor Interpretations necessary
- Either Synchronous or Asynchronous -- Closing in on ability to be totally asynchronous

- Scripted progression and learner fully immersed in content
- No instructor interpretations necessary
- Either Synchronous or Asynchronous --Can be totally asynchronous

- Scripted progression and learner fully immersed in content
- Multiple layers of content treatment for all types of learners and remediation
- No instructor interpretations necessary
- Designed for total Asynchronous Training

Course Intro [Description]

- etA Built Course Description
- Instructor Prescribed and Facilitated
- Simple Course Topic Summary
- Instructor Interpretations

- etA Built Course Description
- Explanation of navigation
- Explanation of Scoring/ Student Experience
- Instructor Interpretations

- Video and Description - introduction to Course
- Train-the-Facilitator Pre-req
- Learning progression outlines for facilitator & learner
- Complete course experience explanation
- Course Success Definitions
- Instructor Interpretations *if needed

- Syllabus to course encompassing all engagement explanations
- Complete course experience explanation

Exploration / Lesson References

- etA built - Lesson Description, possible video
- Instructor Prescribed and Facilitated
- Text Reference (Book, PDF, Website)
- Powerpoint Presentations - Interpretation necessary
- Lecture - Instructor Created

- etA built - Lesson Description, possible video
- Video if needed
- If PowerPoints, they are full context, no need for interpretation
- All necessary training built in or referenced. Text, Video, or Simulation

- References to learning and engagement to activity begin to blur as lesson questions become training components
- Concepts introduced while engaged in lesson quizzing
- Engagement utilizing Moodle Quiz engine functionality
- Fully Developed Training Guide for Local Instruction

- References to learning and engagement to activity fully blurred
- Engagement through immersive themes
- Engagement through HTML/SCORM or other

Training Content [Formative]

- etA Built Practicing Content
- Instructor Prescribed and Facilitated
- LMS Lesson Questions
- Chapter Review Questions

- etA built Practicing Content
- Instructor Facilitated
- LMS Lesson Questions
- Feedback on questions based on response

- Assessment begins to get down to the component level (question or Learning Objective level).
- Feedback augmented to video
- The why of the right and wrong answers to questions explained within the lesson activity
- Instructor - Class Discussion Based Review

- Measurements of Mastery
- Badging
- Constant Feedback
- Remediation
- Instructor - Class Review -- Unlikely -- More often Labs will be introduced

Adaptation [Lesson Review]

- etA Built Courseware Assets
- Instructor Utilized, Prescribed and Facilitated
- Web Links - Videos | Research, Simulations, Classroom Activities, Labs, Flash Cards
- Report Analysis & Review

- etA built Courseware Assets
- Feedback on quizzes based on student score / development
- Activity locking based on lesson scores. Score high enough, next steps unlocked. Too low and student must repeat
- Report Analysis & Review

- Feedback on quizzes based on student score / development
- Activity locking based on lesson scores. Score high enough, next steps unlocked. Too low and student must repeat
- Report Analysis & Review

- Moodle Formative Assessments
- Remediation
- Report Analysis and Review still possible | CAN BE A REVIEW BY STUDENT ONLY
- Support likely needed to be created for student to analyze data on own

- Adaptive Learning Components
- If then this, else that

Summative [Test Gen. Exams]

- etA built Test Generator Questions
- Instructor Prescribed and Facilitated
- Test Gen Questions

- Course Completion
- If a Test Generator test is delivered, it is locally facilitated

- Course Completion
- If a Test Generator test is delivered, it is locally facilitated

- If a Test Generator test is delivered, it is locally facilitated and probably due to local JATC not getting it?

Retrospective [Test Review]

- Test Review

- If Needed

- If Needed

LEVEL 1

[*Instrumentation Mod.1]

LEVEL 2

[*Preparing For Leadership]

LEVEL 3

[*Interim Credential]

LEVEL 4

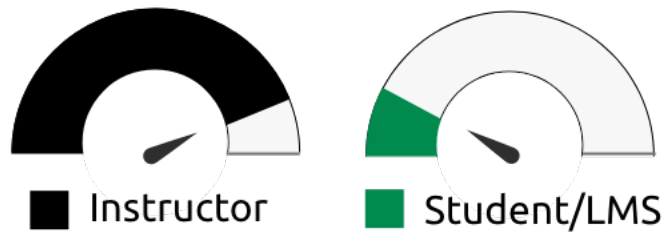
[*Coming Soon]

COMPUTER MEDIATED LEARNING

LEVEL 0

[*Job Info]

Course Content Facilitated By:



Asynchronous Learning Possibility:



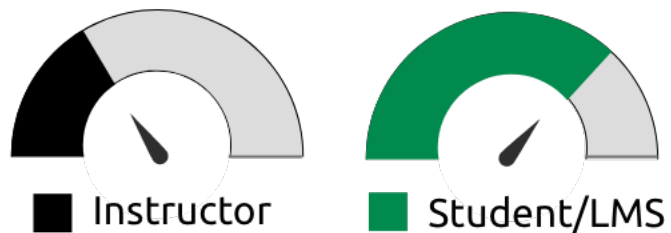
- The Minimum | Blended Learning and the LMS
- Almost fully instructor facilitated
- Synchronous Training

COMPUTER MEDIATED LEARNING

LEVEL 1

[*Instrumentation Mod.1]

Course Content Facilitated By:



Asynchronous Learning Possibility:



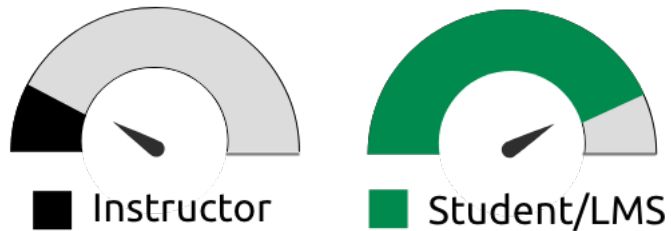
- Use of an LMS to control scripted progression
- Only Light Instructor Interpretations
- Either Synchronous or Asynchronous

COMPUTER MEDIATED LEARNING

LEVEL 2

[*Preparing For Leadership]

Course Content Facilitated By:



Asynchronous Learning Possibility:



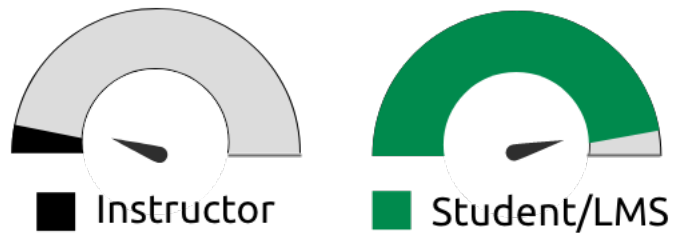
- Use of an LMS to control scripted progression
- Almost no Instructor Interpretations necessary
- Either Synchronous or Asynchronous -- Closing in on ability to be totally asynchronous

COMPUTER MEDIATED LEARNING

LEVEL 3

[*Interim Credential]

Course Content Facilitated By:



Asynchronous Learning Possibility:



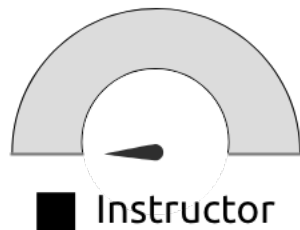
- Scripted progression and learner fully immersed in content
- No instructor interpretations necessary
- Either Synchronous or Asynchronous -- Can be totally asynchronous

COMPUTER MEDIATED LEARNING

LEVEL 4

[*Coming Soon]

Course Content Facilitated By:



Asynchronous Learning Possibility:



■ Synchronous
■ Asynchronous

- Scripted progression and learner fully immersed in content
- Multiple layers of content treatment for all types of learners and remediation
- No instructor interpretations necessary
- Designed for total Asynchronous Training

