

SASOL 5TH ANNUAL TECHNICAL TEACHES' CONFERENCE 2021

Review of 2020 matric performance in Tech Maths and Technical Science

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Chief Director: MST & CEP

Wednesday, 23 & Thursday, 24 June 2021



PRESENTATION OUTLINE

1. Strategic Direction
2. NDP Targets
3. Summary
4. The National and Regional Participation Rates
5. The National and Regional Success Rates
6. Achievements
7. Communication Implications
8. Challenges and Future Plans

STRATEGIC DIRECTION

*“The different **parts** of the education system should work together allowing learners to take **different pathways** that offer high **quality** learning opportunities.”*

(National Planning Commission: National Development Plan, November 2011)

NDP TARGETS

*“One of the **targets** set for **2014** in the delivery agreement signed by the Minister of Higher Education and Training is to produce **10 000 artisans** per year. This target can be met with concerted effort and adequate funding. We propose a **target of 30 000 by 2030**, subject to demand.”*

(National Planning Commission: National Development Plan, November 2011)



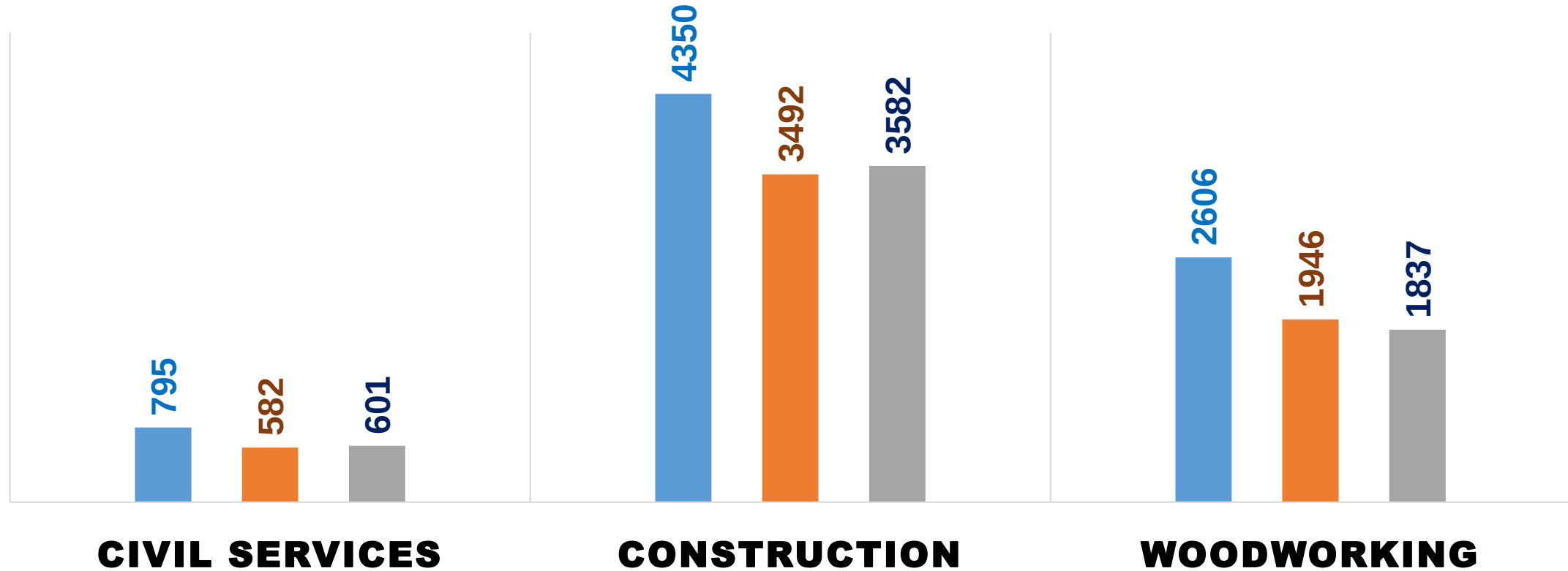
SUMMARY

- The implementation of the Technical Subject's Specialisations commenced in January 2016 at grade 10 including Technical Mathematics and Technical Sciences.
- Engineering Graphics and Design is a compulsory subject for the technical subjects programme.
- The first cohort of grade 12 learners for the Technical subject's Specialisations including Technical Mathematics and Technical Sciences was in 2018.
- The graphs below show the decline in the participation rate of learners in the Technical subject's Specialisations from 2018 to 2020.

THE NATIONAL PARTICIPATION RATE IN THE CIVIL TECHNOLOGY SPECIALISATIONS

CIVIL TECHNOLOGY SPECIALISATIONS PARTICIPATION RATE: 2018-2020

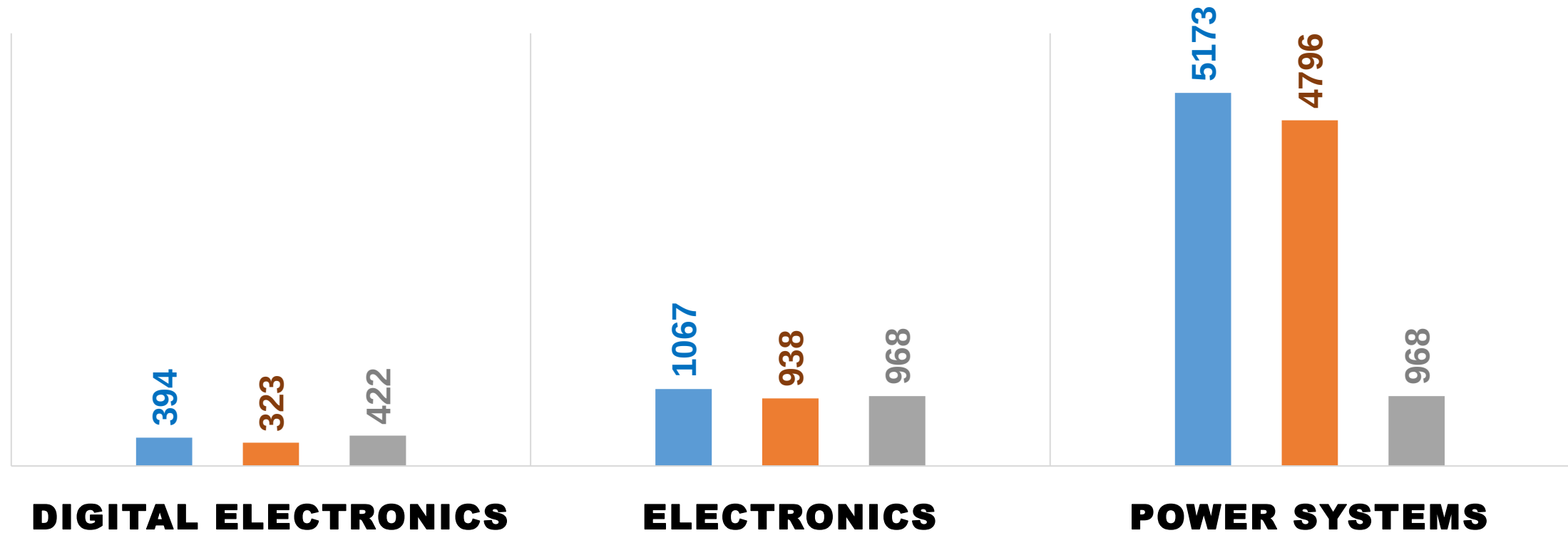
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THE NATIONAL PARTICIPATION RATE IN THE ELECTRICAL TECHNOLOGY SPECIALISATIONS

ELECTRICAL TECHNOLOGY SPECIALISATIONS PARTICIPATION RATE: 2018-2020

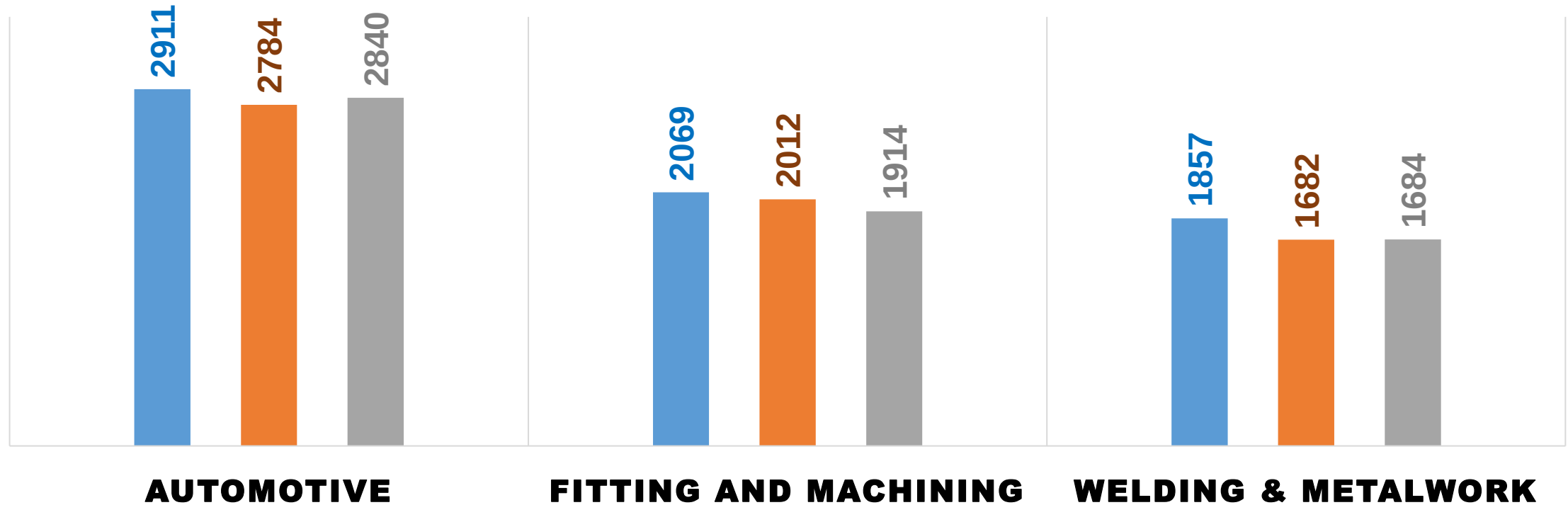
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THE NATIONAL PARTICIPATION RATE IN THE MECHANICAL TECHNOLOGY SPECIALISATIONS

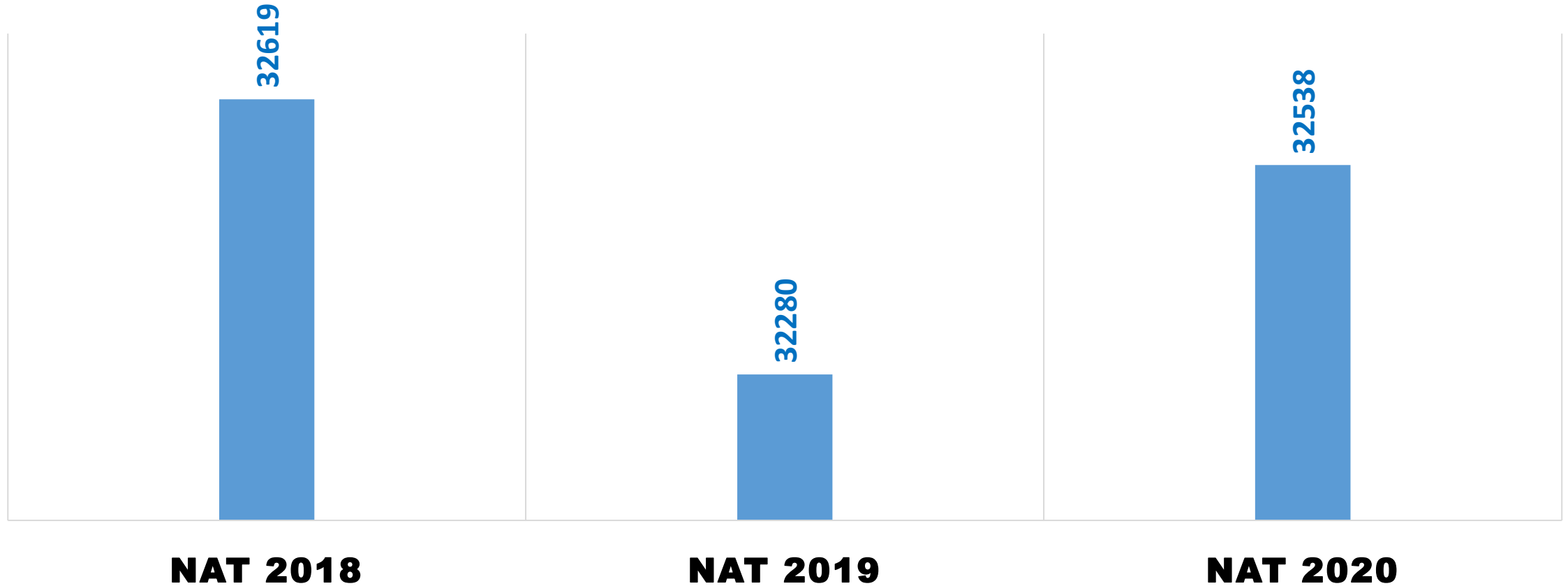
MECHANICAL TECHNOLOGY SPECIALISATIONS PARTICIPATION RATE: 2018-2020

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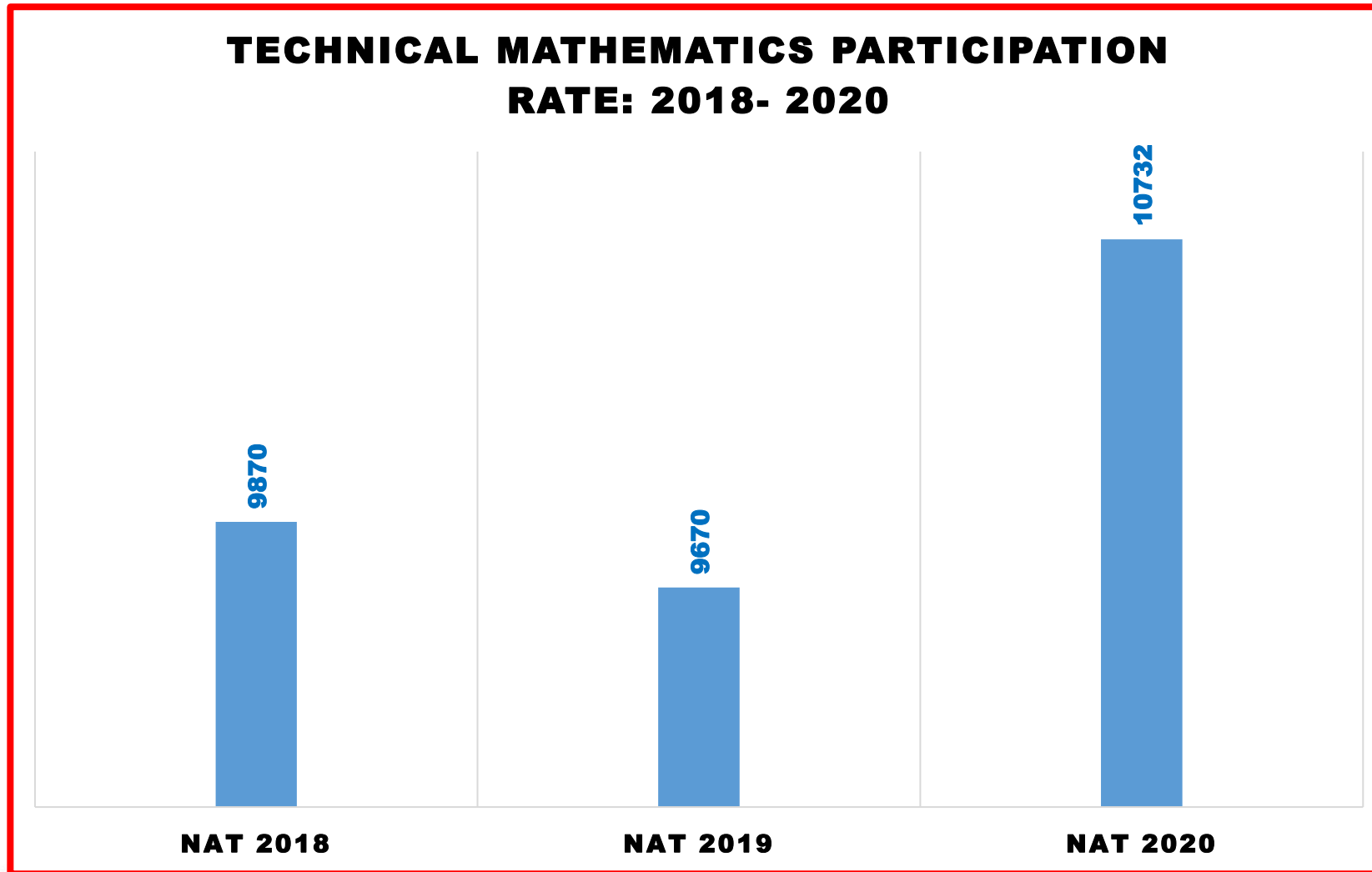


THE NATIONAL PARTICIPATION RATE IN THE ENGINEERING GRAPHICS AND DESIGN (EGD)

ENGINEERING GRAPHICS AND DESIGN (EGD) PARTICIPATION RATE: 2018 - 2020

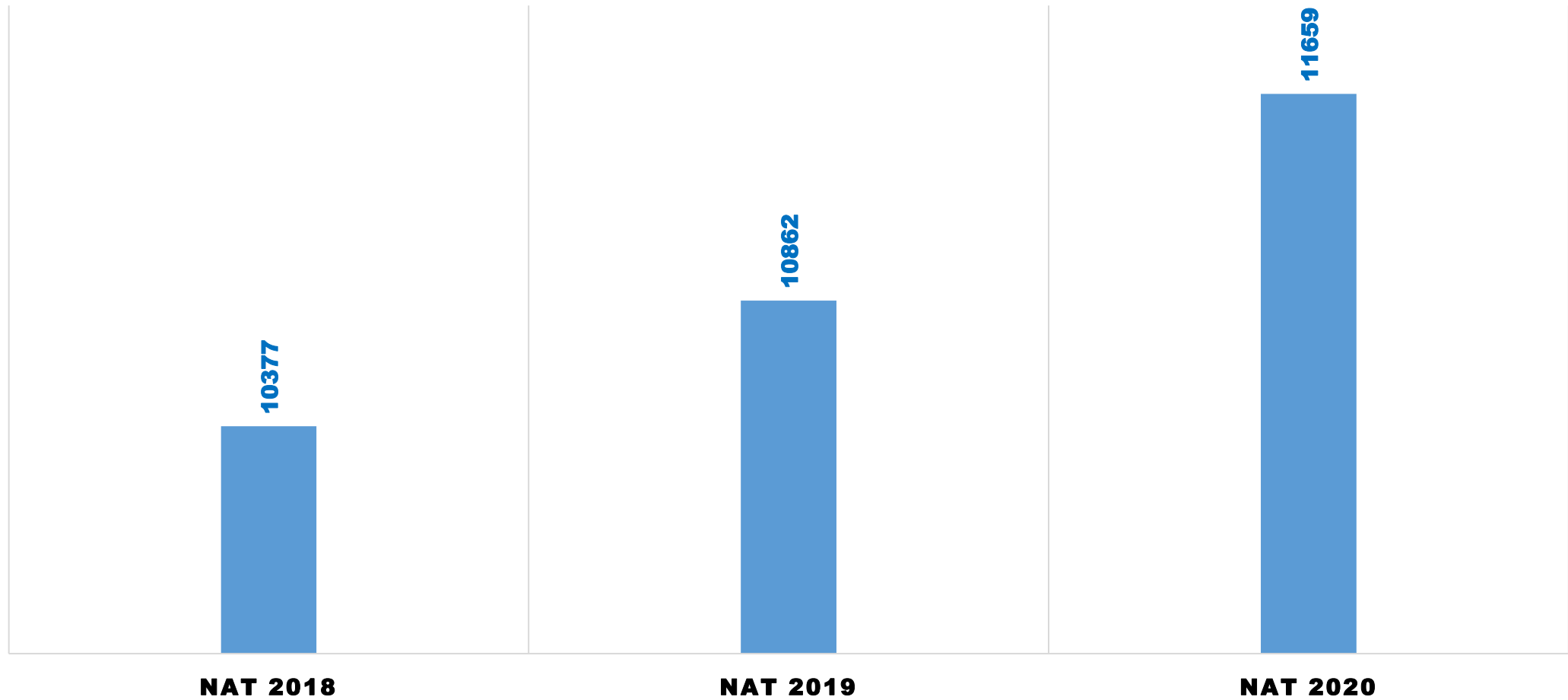


THE NATIONAL PARTICIPATION RATE IN THE TECHNICAL MATHEMATICS



THE NATIONAL PARTICIPATION RATE IN THE TECHNICAL SCIENCES

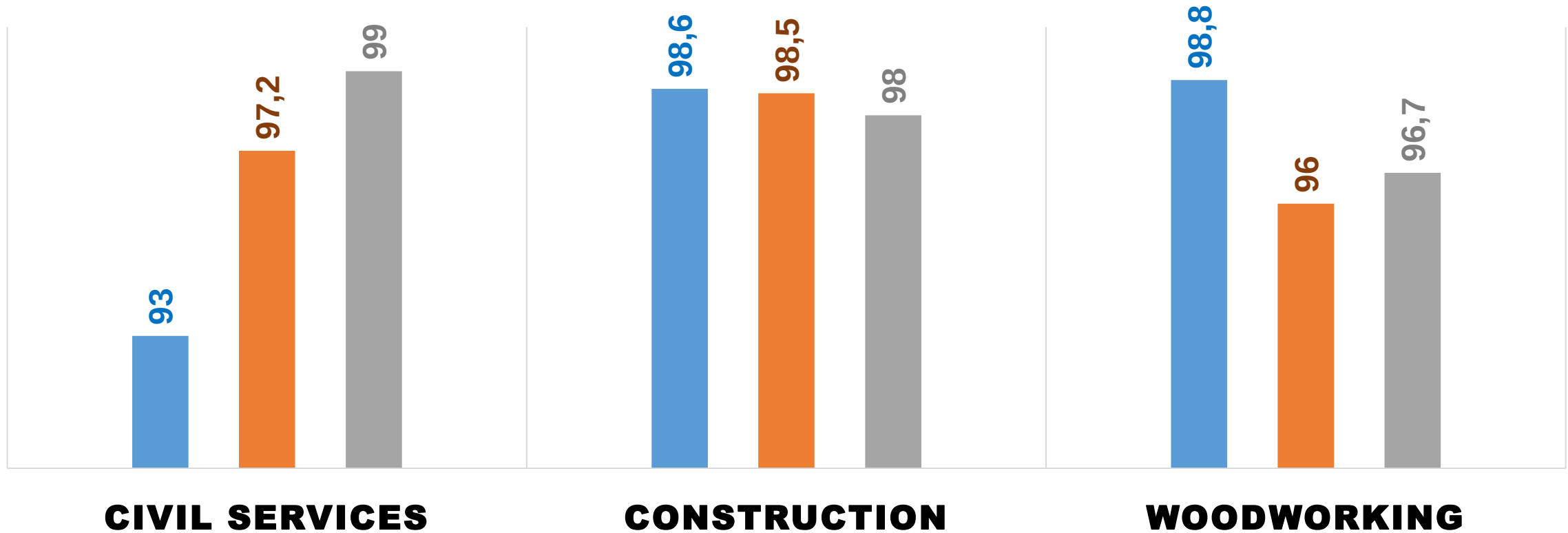
PARTICIPATION RATE IN THE TECHNICAL SCIENCES: 2018 - 2020



THE NATIONAL SUCCESS RATE IN THE CIVIL TECHNOLOGY SPECIALISATIONS

SUCCESS RATE IN THE CIVIL TECHNOLOGY SPECIALISATIONS

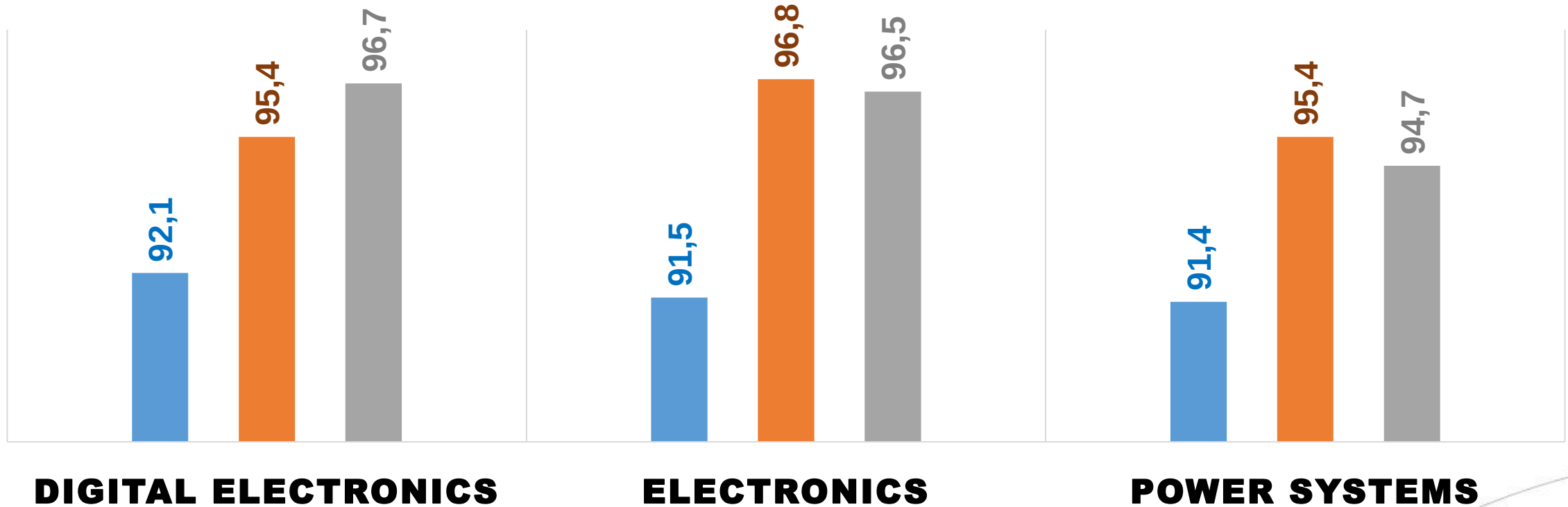
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THE NATIONAL SUCCESS RATE IN THE ELECTRICAL TECHNOLOGY SPECIALISATIONS

SUCCESS RATE IN THE ELECTRICAL TECHNOLOGY SPECIALISATIONS

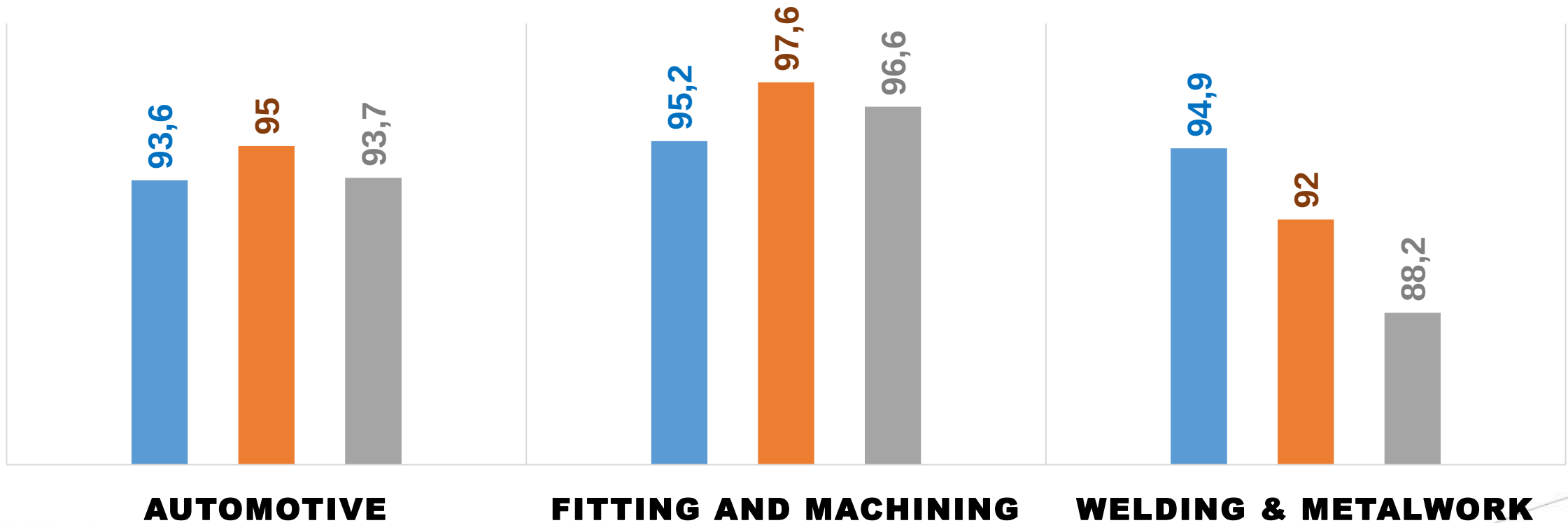
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THE NATIONAL SUCCESS RATE IN THE MECHANICAL TECHNOLOGY SPECIALISATIONS

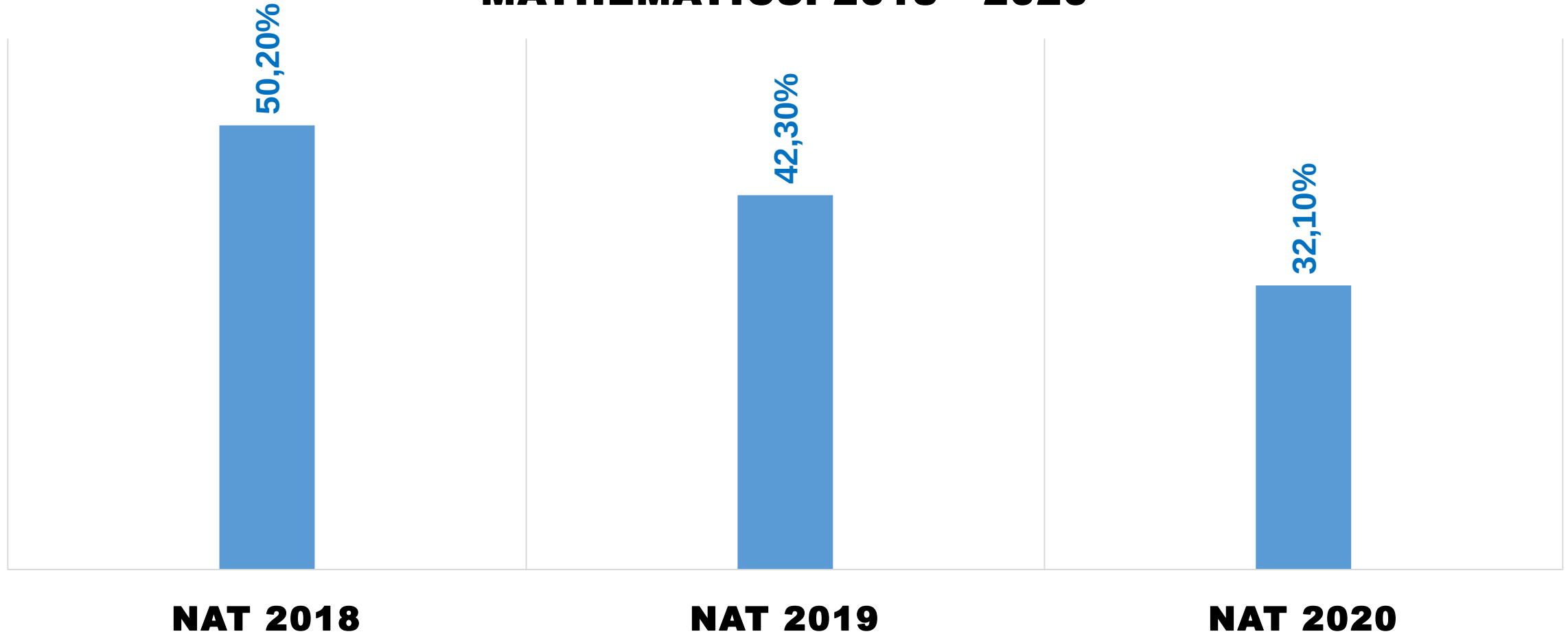
SUCCESS RATE IN THE MECHANICAL TECHNOLOGY SPECIALISATIONS

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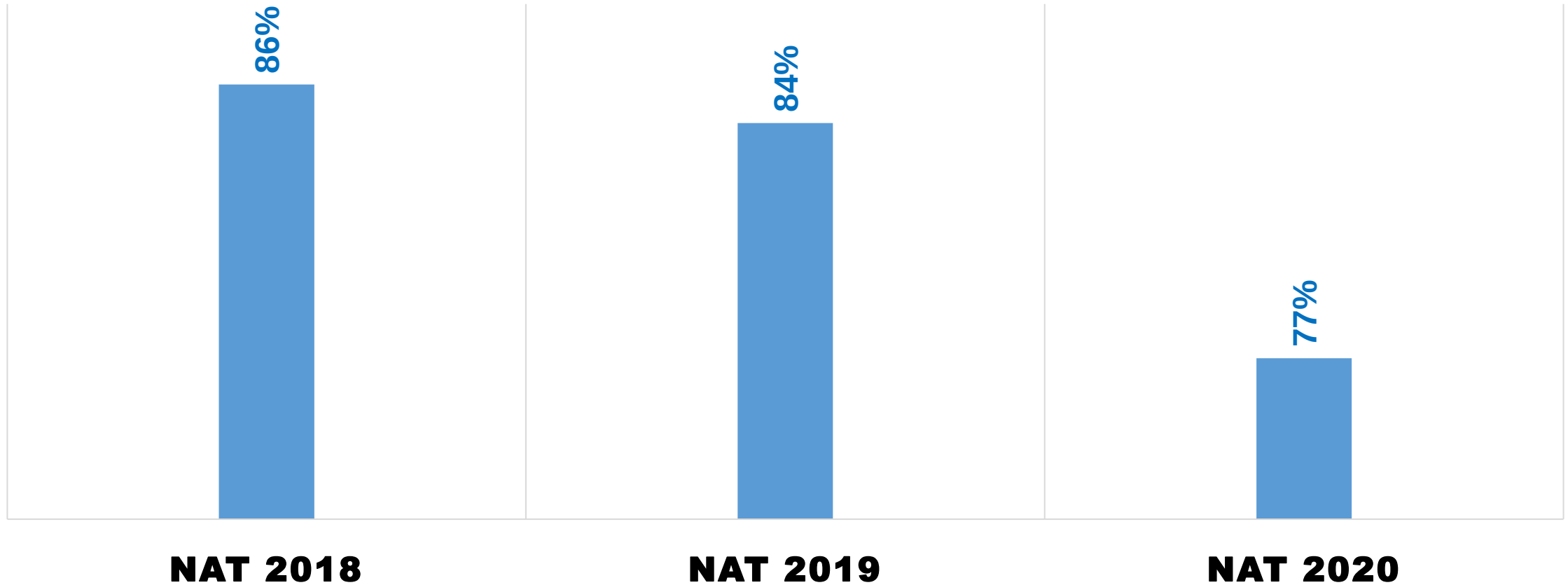
THE NATIONAL SUCCESS RATE IN THE TECHNICAL MATHEMATICS

NATIONAL SUCCESS RATE IN THE TECHNICAL MATHEMATICS: 2018 - 2020



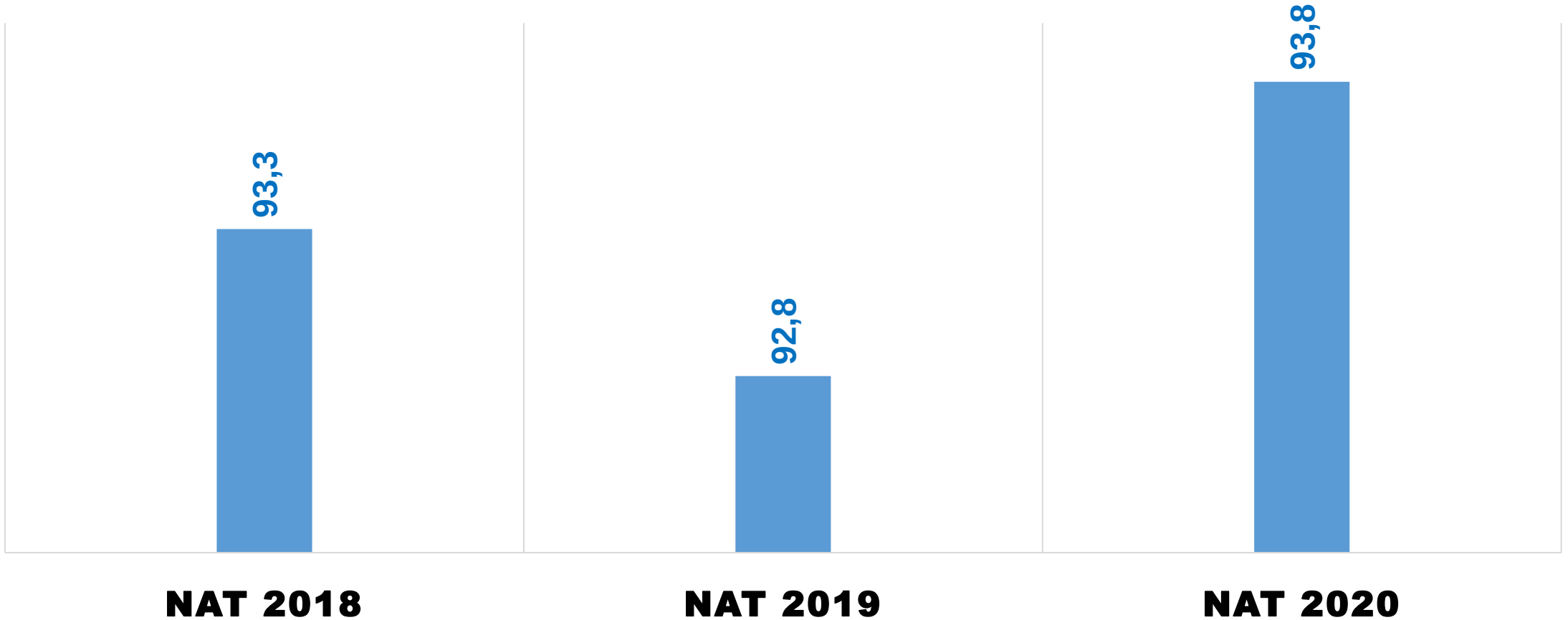
THE NATIONAL SUCCESS RATE IN THE TECHNICAL SCIENCES

SUCCESS RATE IN THE TECHNICAL SCIENCES: 2018 - 2020



THE NATIONAL SUCCESS RATE IN THE ENGINEERING GRAPHICS AND DESIGN (EGD)

SUCCESS RATE IN THE ENGINEERING GRAPHICS AND DESIGN (EGD)



ACHIEVEMENTS ON THE IMPLEMENTATION OF TECHNICAL SUBJECTS

- The introduction of Practical Assessment Tasks (PAT) for Technical Mathematics in grade 10 -12 in 2021.
- Developed and Mediated ATP's for Grades 10-12 for all the Technical Subjects;
- Developed and Mediated abridged section 4 of the CAPS for Grades 10-12 for all the Technical Subjects;
- Established working teams responsible for the development of Common (June) Practical Simulation Assessment Tasks for Grade12 for all specialisations.
- Established the writing teams for the development of the Digital content for Grade10-12 for all the Electrical Technology and Mechanical Technology specialisation subjects and introduced provincial Coordinators on the DBE Moodle Platform.
- A Memorandum of Agreement was forged between Ford South Africa and the DBE, and 240 engines were delivered to schools offering Mechanical Technology Specialisation, Automotive.

ACHIEVEMENTS ON THE IMPLEMENTATION OF TECHNICAL SUBJECTS

- NSC Standardisation for all the Technical subjects was conducted and raw marks were accepted. The NSC results were improved in the Technical subjects including Engineering Graphics and Design.
- Supported Four Grade 12 marking centres.
- Eighteen (18) schools were monitored in fulfilment of the annual performance plan targets for 2020/2021 financial year.
- The establishment of Focus Schools is being aligned with economic zones, corridors and or sectors.
- A process is underway to rationalise the offering of similar subject combinations by neighbouring schools in provinces.
- Facilitated Subject Committee Meetings (SCM) for all the Technical subjects' specialisations including Engineering Graphics and Design, Technical Mathematics and Technical Sciences, where the following were mediated
 - The 2020 Diagnostic Reports for Technical Subjects to provinces for purposes of improving the 2021 NSC examinations;
 - The 2021 Practical Assessment Tasks (PAT) to provinces; and
 - The Examination Guidelines.

COMMUNICATION IMPLICATIONS

- Ongoing advocacy should be done at all levels to promote knowledge and understanding of the rights of learners who are more technically and vocationally inclined to reach their full potential in the schooling system.

TECHNICAL SUBJECTS: CHALLENGES, MEDIATION & FUTURE PLANS

Challenges	Mediation
Lack of Subject Advisors for all the specialisation subjects including Engineering Graphics and Design (EGD) in Limpopo, Mpumalanga, Free State, Eastern Cape and Northern Cape.	PEDs (Limpopo, Mpumalanga, Free State, Eastern Cape and Northern Cape) should advertise the posts in Districts and Head Office.
Lack of dedicated Subject Advisors in all provinces for Technical Mathematics and Technical Sciences.	Provinces should advertise the posts in Districts and Head Office for Technical Mathematics and Technical Sciences.
The Covid 19 had impacted negatively on the number of learners allowed for practical's in the workshop in all the Technical subjects specialisations including EGD.	Workshops tools and equipment's should be ordered as learners should not be expected to share the tools and equipment as per Covid 19 health protocols.
Woodworking and Mechanical Technology, Fitting and Machining, learners did not perform well in drawings and calculations.	Self-study guides to be developed for Woodworking and Mechanical technology, Fitting and Machining to mediate the topics.

TECHNICAL SUBJECTS: CHALLENGES, MEDIATION & FUTURE PLANS

Challenges	Mediation
Learner participation rate and school participation rate is decreasing in all the Technical subject's specialisations including Technical Mathematics and Technical Sciences.	DBE and provinces to embark on radical advocacy campaign for the subjects.
Uniformity in the terminology used across all the Technical subjects including EGD, Technical Mathematics and Technical Sciences.	Development of a terminology or glossary booklet to be used by all learners covering all topics
No Digital learner support materials in the Technical subject's specialisations including EGD, Technical Mathematics and Technical Sciences.	Development of learner supplementary materials in the Technical subject's specialisations including EGD, Technical Mathematics and Technical Sciences.
The Strengthening of Technical Mathematics and Technical Sciences CAPS to increase participation and performance.	Budget should be allocated for the strengthening of the subjects.

Every child is a National Asset

Thank you!

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