



May 2022

Registration Data Report

Certified Technicians and Technologists
Association of Manitoba



Fair Registration Practices Office



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Executive Summary

This report presents registration data of the Certified Technicians and Technologists Association of Manitoba (CTTAM) from 2011 to 2021. The Fair Registration Practices Office (FRPO) issues this report as part of the office's mandate and oversight responsibility under The Fair Registration Practices in Regulated Professions Act. Its purpose is to provide a statistical picture of application, assessment and registration outcomes for internationally educated applicants to CTTAM over the last eleven years.

From 2011 to 2021, CTTAM's registration data indicates 843 internationally educated technicians and technologists applied. From 2012 to 2020 internationally educated applicants (IEAs) represented 31 per cent of CTTAM's applicants. Philippines was the most common country of education, representing 47 per cent (392/843) of IEAs.

Forty-six per cent (387/843) of IEAs who applied to CTTAM from 2011 to 2021 registered in this reporting period. Further registrations from those IEAs still in process or licensed provisionally as associates are likely beyond 2021 and would raise this registration rate figure. The registration to application ratio for domestic applicants was 82 per cent (1,298/1,592) for the 2012 to 2021 period.

Among this group of 387 IEA registrations, 60 per cent were registered as technicians and 40 per cent were registered as technologists.

Very few IEAs are screened as unqualified from CTTAM's registration process. IEAs who were not registered, overwhelmingly received associate status or provisional registration and are eligible to proceed to registration with additional academic or qualifying work experience. Ninety-nine per cent of IEAs (838/843) were either registered or registered provisionally in the period.

CTTAM's registration timelines are short; median timelines to registration and to provisional registration, for both technicians and technologists, were all under four months.

Regarding IEA trends in applications, outcomes and timelines throughout the reporting period, applications drop in the later half of the reporting period. There is some evidence of a trend toward slightly shorter registration timelines. Particularly for technologists, registration rates improve significantly in the latter part of the reporting period. A positive impact for the registration of IEA technologists can be seen in the data with the CTTAM's 2017 introduction of Competency Exams and recognizing Engineers Geoscientists of Manitoba assessments.

The quality of registration data collected for the 2011 to 2021 period is strong. CTTAM's IEA data illustrates key timelines and outcomes throughout the process.

FRPO is grateful to CTTAM for their work with the office over this 11-year period and their commitment to continuously improving data reporting.

Glossary of Terms

This glossary defines key terms used throughout the report to help ensure understanding of the findings presented. For consistency, certain terms are used across professions even though regulators may use other operational terms. For example, ‘provisional registration’ is used in reference to any temporary or conditional registration that enables some form of practice or title representation. Manitoba regulators use a variety of terms ‘member-in-training’, ‘graduate nurse’, ‘exam candidate’, ‘intern’, etc. that signify different types of provisional registration.

Domestic Applicant (DA)

An individual with Canadian education, or current Canadian registration, applying for registration with a Manitoba regulator. With regard to labour mobility applicants, this may include internationally educated applicants.

Internationally Educated Applicant (IEA)

An individual educated outside of Canada applying for registration with a Manitoba regulator. This may include Canadians educated outside of Canada.

National Occupational Classification Number (NOC #)

The federal government’s system of classifying and describing the occupations in the Canadian economy. In this report, NOC numbers are used in the presentation of immigration data. When an individual applies to immigrate to Canada, they self-identify by NOC number. Some professions have a unique NOC assigned to them, while others share a NOC with one or more other professions. Where this is the case, it is outlined in the report.

Provisional Registration

Temporary or conditional registration that enables some form of practice or title representation. In some professions, this is granted to applicants who substantially meet a regulator’s registration requirements, allowing them to complete a period of approved supervised practice. Not all Manitoba regulators offer provisional registration and terms used vary.

Provisionally Registered Applicant

An applicant who successfully completes the requirements to be granted a temporary or conditional registration.

Registration

The licensing or certification process whereby applicants acquire legally sanctioned professional recognition with the authority to practise and/or use a designated protected title within a jurisdiction.

Registered Applicant

An applicant who successfully completes the licensing or certification process, meeting all requirements necessary to be entered onto a register of members maintained by a regulatory body.

Data Collection Terms

Completed Application

An application for which all documents and fees needed for an initial assessment decision are submitted. The completed application date marks the start of an applicant's registration process. This may occur with the Manitoba regulator or a national third-party responsible for the first stages of the assessment process. Additional requirements and documents may be needed at later stages of the assessment and registration process.

Applicant File (Internationally Educated Applicants)

When an individual applies to a Manitoba regulator, a file is opened and data specific to that individual is collected on key steps in the profession's registration process. Each IEA has one 'applicant file' regardless of the number of times they apply or the number of years their file is in process.

Closed File

An applicant file that is no longer active. When an applicant is no longer pursuing the registration process — they have either withdrawn from the process or have been deemed ineligible to pursue or continue to pursue the process — their file is 'closed'.

This term is **not** used to refer to files of applicants who have been registered.

Resolved File

An applicant file that is no longer active. A file is considered 'resolved' when the applicant has withdrawn from the process, been denied or been registered.

Withdrawal

A reason provided for a closed file. Applicants who stop pursuing registration despite eligibility to continue are considered 'withdrawals'.

Denial

A reason provided for a closed file. Applicants who are deemed ineligible to continue to pursue registration.

In Process (Unresolved) File

An applicant file that is active. The file remains open while the applicant continues to pursue registration. 'In process' applicants may or may not be provisionally registered.

Initial Assessment

The decision made upon review of documents and other requirements submitted at application. The initial assessment is conducted either by the Manitoba regulator or by a designated third-party assessor. In most cases, this initial assessment determines whether an applicant is eligible (or approved) to pursue the registration process.

Pre-Arrival

Before immigrating to Canada.

Post-Arrival

After immigrating to Canada.

Registration Timelines

The time it takes an applicant to complete the registration process. The start of the process is marked by the date of submission of a completed application to either the Manitoba regulator or the regulator's designated third-party assessor and the end of the process is marked by the date of provisional registration or registration.

Registration Rates and Ratios

For professions with IEAs still in process at the end of the reporting period, determining a precise registration rate is not possible. Where this is the case, the IEA registration rate among resolved files (closed and registered) and registration to application ratios are provided as **indicators** of a profession's registration rate. As individual data is not collected, only registration to application ratios can be provided for DAs.

Registration Rate

Percentage of applicants who apply in a given period and go on to register

Registration to Application Ratio

Number of registrations

÷

Number of complete applications in a given year or period

Resolved Registration Rate

Number of registrations

÷

Number of complete resolved files in a given year or period

Late period Registration to Application Ratio

Number of registrations, 2016 to 2020, of individuals applying between 2011 to 2020

÷

Number of complete applications made between 2016 and 2020

Introduction

The Fair Registration Practices Office's (FRPO) registration data report on the Certified Technicians and Technologists Association of Manitoba (CTTAM) is issued under FRPO's responsibility under section 14(2b) of The Fair Registration Practices in Regulated Professions Amendment Act (Act) to conduct research and analysis regarding the registration of internationally educated applicants (IEAs).

CTTAM supplies registration data to the FRPO (formerly the Office of the Manitoba Fairness Commissioner) as an obligation under The Fair Registration Practices in Regulated Professions Amendment Act (sec. 15(2)). Each year, CTTAM provides records on the key steps in the assessment and registration process for IEAs, and less detailed, aggregate application and outcome information for domestic applicants (DAs). CTTAM, and the other regulated professions under Manitoba's fairness legislation, have been providing IEA data since 2011; DA data has been supplied since 2012.

This report presents 2011 to 2021 assessment and registration data for IEAs on applications, assessment outcomes, timelines and trends, together with aggregate DA data.

Facts and figures in this report are accompanied by analysis and contextual remarks to help make sense of the data and provide a coherent, statistical picture. Values less than five and that pose privacy concerns will be redacted in the report posted on FRPO's website and indicated by the '■' symbol. A glossary of terms, as well as a step-by-step overview and process map of CTTAM's registration process are provided.

The report is restricted to developing a fact-based, statistical picture. There is no discussion of fairness issues or matters of compliance to fairness duties under the Act. An evaluation of the quality of data collection is provided and where it is incomplete, opportunities for improvement are identified.

Overview of Assessment and Registration Process

The following section provides a step-by-step overview of the Certified Technicians and Technologists Association of Manitoba's (CTTAM) assessment and registration process. It is intended to give the reader an understanding of the key requirements and the order of the process to help make sense of the registration data. This information is current as of April 2022. However, complete information is not provided and policies and fees are subject to change. Visit [CTTAM](#) for detailed information.

Legislation

CTTAM certifies and regulates engineering technicians and technologists in Manitoba. CTTAM operates under the authority of The Certified Applied Science Technologists Act (C.C.S.M. c. C45.1), regulating for right to title for several designations: Engineering/Applied Science Technician (C. Tech.), Engineering/Applied Science Technologist (C.E.T. and A.Sc.T.), Associate Member and Student Member.

Technicians and technologists can work in Manitoba without being registered, but require certification to represent themselves as designated technicians and technologists.

Qualification Requirements

There are three principal qualifications required to be registered as a technician or technologist:

- graduation from a technician or technologist academic program approved by the Canadian Council of Technicians and Technologists (CCTT)
- a passing grade on CTTAM's Law and Ethics Exam
- two years of professional Canadian work experience acceptable to CTTAM

Internationally educated technicians and technologists (IETTs) must have academic credentials and professional work experience qualifications deemed substantively equivalent to Canadian Standards as defined by the Canadian Council of Technicians and Technologists' (CCTT) National Technology Benchmarks.

Accords, mutual recognition and reciprocity agreements are in place for several international jurisdictions that allow for membership transfers or for the recognition of academic qualification. Jurisdictions include the United States, United Kingdom, Hong Kong, Ireland, South Africa, New Zealand, Australia, as well as those signatory to the Sydney and Dublin Accords.

Steps to Registration

Step 1: Optional Self-Assessment

For IETTs, an optional self-assessment is available on the CCTT's national website. The self-assessment allows IETTs to see how their academic and work experience credentials compare to Canadian standards on the International Qualifications Data Base and through the National Technology Benchmarks. There is no fee for the self-assessment.

Step 2: Apply to CTTAM for Assessment of Academic Qualification

For IETTs, the first step is to apply to CTTAM. CTTAM application process can be completed online and may be initiated abroad. Applicants must complete an application form, pay a \$150 application fee and arrange a WES ICAP credential assessment. This involves arranging the submission of transcripts and syllabus from education institutions directly to WES. Application forms detail the applicant's work history and require a signature from former supervisors or employers. Three professional references are needed.

CTTAM's Certification Board reviews applications. Applicants are informed in writing of their assessment results one to four weeks upon completed application.

CTTAM assesses academic and professional experience to determine if the applicant qualifies for:

- the technologist or C.E.T. designation
- the technician or C. Tech designation
- associate membership status

Applicants are advised of any academic or professional experience gaps and the steps required to achieve a technician or technologist designation. Applicants who have applied and been assessed by Engineers Geoscientists Manitoba as possessing professional engineering degrees are assessed as meeting academic qualification for the technologist designation.

Step 3: Write CTTAM's Law and Ethics Exam

Applicants must pass CTTAM's Law and Ethics Exam. This is an online that tests for professional jurisprudence knowledge. A Professional Practice Manual that covers the material is provided with the application. No fees are involved.

Step 4: Complete Professional Work Experience

Based on CTTAM's assessment of an applicant's work experience, IETTs must complete up to two years of professional work experience as a technician or technologist.

One year of Canadian professional experience is mandatory, where at least six months occurs in a role consistent with the applicant's certification level (technician or technologist). Experience acquired in Canada, prior to CTTAM application may count toward the one year Canadian experience requirement.

Applicants are granted associate member status while they acquire professional experience.

CTTAM's Certification Board is responsible to review the applicant's current employment and professional references to determine if the work experience requirement is met. No assessment fees are involved.

Step 5: If applicable, C.E.T. Competency Exam and Competency Summary

In lieu of academic upgrading and completing further work experience requirements, IEAs with technologist-level academic credentials recognised by Technology Accreditation Canada may write a challenge exam and submit a Competency Summary to register with the C.E.T. level certification.

Competency exams are online and offered three times a year; the exam fee is \$261. Exams are offered in nine practice areas and exam handbooks are available from CTTAM. Applicants need to submit an application through Technology Registration Canada with a \$55 fee.

A Competency Summary involves the applicant completing a written, point-form description of their work experience qualifications in relation to six key competencies. These reports must be reviewed and signed by a professional reference familiar with the applicant's professional experience. CTTAM assess Competency Summaries with two discipline-specific subject matter experts.

Step 6: Register

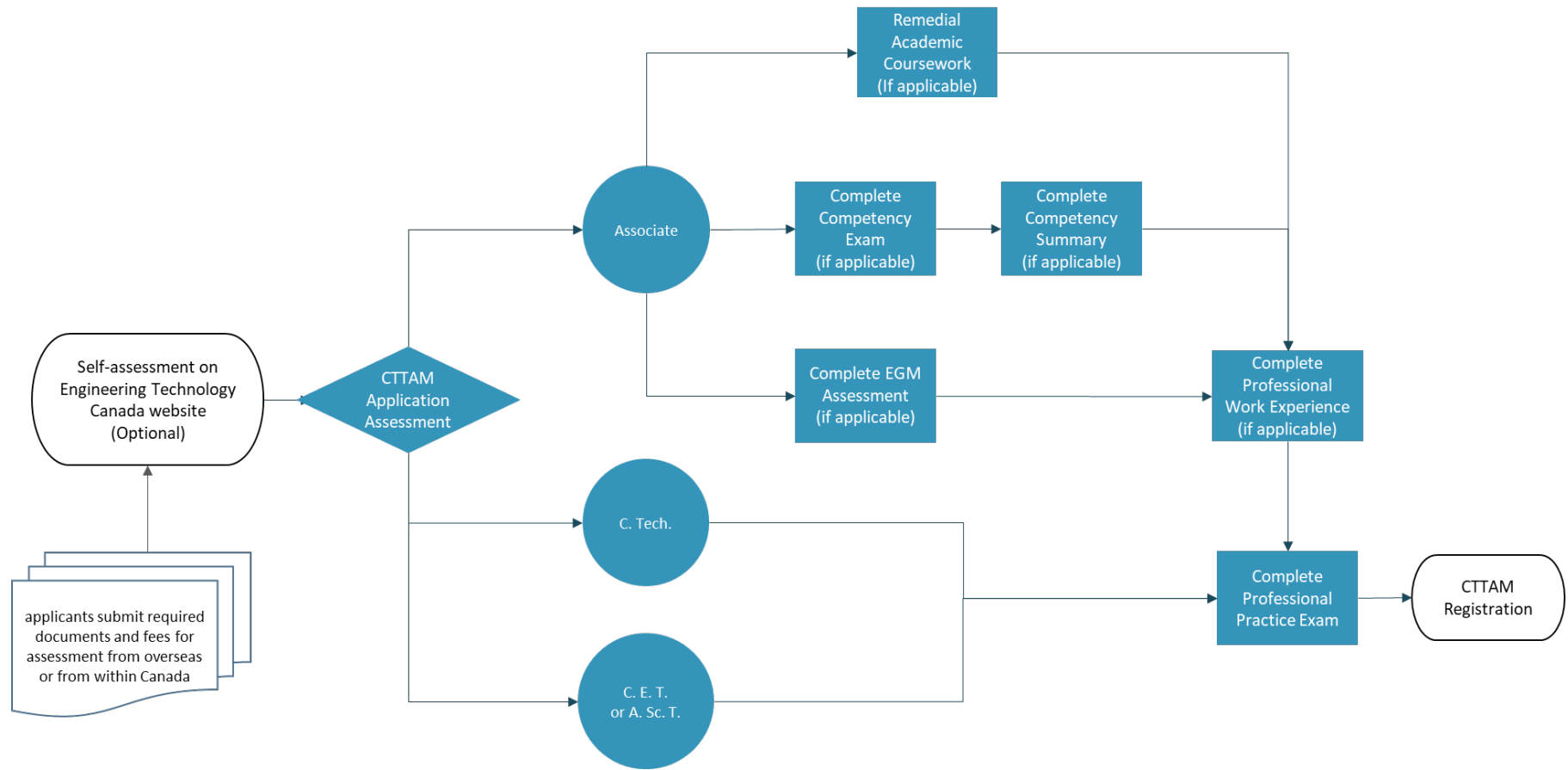
The final step is to register with CTTAM and involves paying a pro-rated \$200 annual registration fee.

Registration Time and Costs

For IETTs registration timelines to some form of professional designation are short and costs are relatively low. From 2011 to 2020, the median time to registration was under three months. Basic costs total approximately \$400.

Timelines can vary significantly for those applicants who apply to CTTAM, are designated as an Associate Member or as C. Tech. and then undertake remedial academic coursework and/or acquire professional experience, and apply for recertification. Timelines to registration are also dependant upon the applicant, and reasons for extended timelines vary as much as each individual's circumstance — initial settlement, family, financial pressures, etc. all impact the process on an individual basis.

Registration Process Map



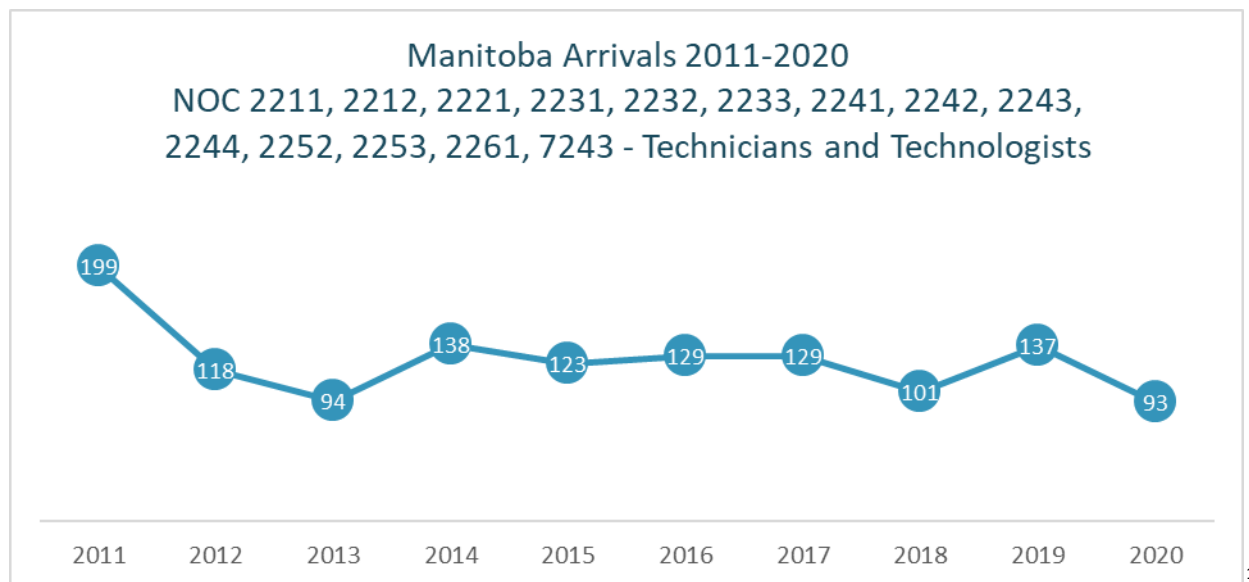
Immigration Statistics

The National Occupational Classification (NOC) is Canada’s national system of classifying and describing the occupations in the Canadian economy. Over 30,000 occupation titles are organised by unit groups, skill levels and skill types. When individuals apply to immigrate to Canada, they are asked to identify their NOC code. This code is used to classify arrivals by their identified occupation.

Immigration statistics can be a helpful indicator of the number of internationally educated professionals arriving in Canadian provinces. However, they are somewhat limited because applicants self-declare their NOC (little verification), only principal applicants are counted (not all immigrants) and NOCs do not always align directly with a profession (some codes apply to several professions and some professions can fall under several different codes).

There are numerous NOCs that potentially identify technicians and technologists. From 2011 to 2020, 1,261 Manitoba arrivals self-declared using NOCs 2211, 2212, 2221, 2231, 2232, 2233, 2241, 2242, 2243, 2244, 2252, 2253, 2261, 7243.

Over the reporting period, the arrivals were highest in 2011 then remained relatively steady throughout the period.



¹ Created December 2021 by the Manitoba government using IRCC Q4 2020 immigration data

Registration Data

Context – Reading the Numbers

The applied science technician and technologist profession is remarkably broad, covering a range of disciplines and occupations in various areas of expertise. Technologists are distinguished from technicians by a greater level of academic training and a greater ability for independent work and analysis.

The engineering and applied science technician and technologist designations or titles are found in provinces and territories across the country (with the exception of Quebec). Technicians and technologists can work in Manitoba without being registered, but require certification to represent themselves as designated technicians and technologists.

Canada is one of the few countries in the world that regulates the technician and technologist professions. Internationally, technicians and technologists may have dedicated academic diplomas, degrees and certifications but often work in environments where only professional engineering activity is regulated. The profession is closely related to professional engineering and many internationally educated engineers certify with CTTAM.

Applications 2011 to 2021

IEA and DA applications by year

From 2012 to 2021, 843 applicants to CTTAM were internationally educated and 1,592 were domestic applicants.

From 2012 to 2021, CTTAM received 730 IEA applications. IEA applications fluctuated over the period, with most applications received in the middle of the reporting period, 2015 and 2016.

From 2012 to 2021, IEAs represented 31 per cent (730/2322) of CTTAM applications.

DA data was not collected from Manitoba regulators until 2012.

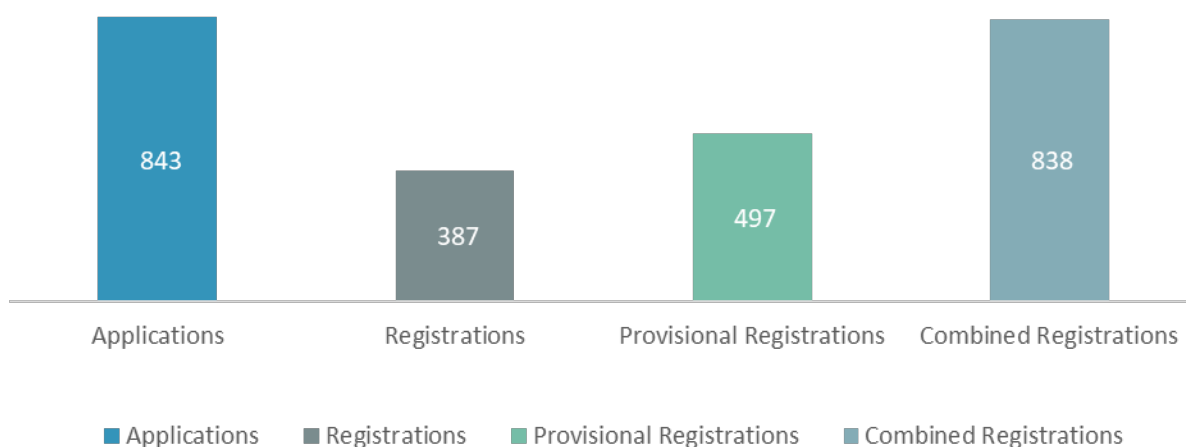
IEA applications ranked by country of education

| Top Five Country of Education by Number of Applications 2011-2021 | | |
|---|----------------------|----------------------|
| Rank | Country of Education | Number of Applicants |
| 1 | Philippines | 392 |
| 2 | India | 124 |
| 3 | Israel | 49 |
| 4 | Nigeria | 38 |
| 5 | Ukraine | 25 |

Applicants from 62 countries applied to CTTAM during the 2011 to 2021 period. By a significant margin, Philippines was the most common country of education among IEA applications. Forty-seven per cent (392/843) of IEAs were educated in Philippines.

Registration Outcomes 2011 to 2021

IEA Applications and Registrations 2011-2021



Of the 843 IEAs who applied to CTTAM from 2011 to 2021, 387 IEAs achieved registration before the end of the reporting period. Four hundred and ninety-seven applicants were provisionally registered as associates. The combined registration rate refers to the number of applicants who applied in the reporting period and received either registration or provisional registration by the end of the reporting period, December 2021. In this case, **99 per cent** of IEAs were registered either as an associate or as a fully registered member with CTTAM.

Application status as of December 2021

| IEA Outcomes as of December 2021 | | | | | |
|----------------------------------|---------------|---------------------------|-------------|---------|------------|
| Number of Applicants | Registrations | Provisional Registrations | Withdrawals | Denials | In Process |
| 843 | 387 | 450 | ■ | ■ | ■ |

At the end of the reporting period, December 2021, outcomes for the 843 applications indicates 387 IEA registrations and 450 provisional registrations.

There are very few ‘withdrawals’ or ‘denials’. Withdrawals refer to applicants assessed at some point in the process as eligible to proceed, but for whatever reason, do not pursue the process. ‘Denials’ refers to applicants assessed as not eligible to proceed at some point in the process.

More registrations from the group of 450 provisional registrations are likely to occur in the future.

IEA assessment outcomes

| Registration Category Comparison | | |
|----------------------------------|-----------------------|-------------------------|
| Number of Registrations | Number of Technicians | Number of Technologists |
| 387 | 232 | 143 |

Of IEAs achieving registration in the 2011 to 2020 period, 60 per cent (232/387) were technicians and 40 per cent (143/387) were technologists.

Note: Twelve applicants were recorded as registered without a designation specified.

Initial assessment outcomes

| Initial Education Assessment Outcomes 2016-2021 | | | |
|---|------------------|----------------|--------------------|
| Number of Application with Initial Education Assessment Outcome | Met-Technologist | Met-Technician | Partial-Technician |
| 322 | 118 | 130 | 74 |
| Per cent | 37% | 40% | 23% |

Starting in 2016, CTTAM began reporting on IEA initial education assessment outcomes. These assessment outcomes report on the level of academic qualification the applicant possesses. From 2016 to 2021, slightly more applicants were deemed academically qualified for technician designation than the technologist level designation; a minority, 23 per cent needed remedial academic training to qualify as a technician.

Reclassification

Applicants who acquire additional education or specialised work experience may apply to CTTAM for reclassification from associate to full designation or from the technician to technologist classification. CTTAM began submitting registration data regarding applicants seeking reclassification starting in 2018.

| Reclassification 2018-2021 | | | | |
|---|---|---|---|---|
| Number of Applications for Reclassification | Reclassified Associate Technician to Technician | Reclassified Associate Technician to Technologist | Reclassified Technician to Technologist | Reclassified Associate Technologist to Technologist |
| 38 | 15 | 5 | 1 | 16 |

Competency Exams and Recognizing Engineers Geoscientists Manitoba Assessment

Since 2017, CTTAM adopted competency exams as a means for applicants to show evidence of qualification at the technologist level. At this time CTTAM also moved to recognise Engineers Geoscientists Manitoba's (EGM) assessment of IEAs who are deemed to be professionally trained engineers. Applicants assessed as possessing professional engineering credentials from EGM are recognised by CTTAM as possessing Technologist level academic training.

FRPO began collecting registration data concerning these assessment options in 2018. Since 2018, 14 IEAs have been recognised with EGM assessments and 25 have undertaken the competency exam.

| Competency Exams and EGM Assessments 2018-2021 | |
|--|---|
| Number of Applicants with EGM Assessment | Number of Applicants with Competency Exam |
| 14 | 25 |

IEA application outcomes by year

Breaking down the above IEA application outcomes by year indicates where these outcomes are distributed in the 2011 to 2021 period.

This table lists the number of applicants in a year together with various registration and closed file outcomes in a year. The applicants and the various outcomes in a year are often not comprised of the same individuals.

| IEA Outcomes by Year 2011-2021 | | | | | | |
|--------------------------------|--------------|---------------|-------------|---------------------------|--------------|----------|
| Year | Applications | Registrations | | Provisional Registrations | Closed Files | |
| | | Technologists | Technicians | | Withdrawals | Denials |
| 2011 | 113 | 6 | 34 | 58 | ■ | ■ |
| 2012 | 78 | 15 | 29 | 44 | ■ | ■ |
| 2013 | 102 | 9 | 23 | 50 | ■ | ■ |
| 2014 | 90 | 4 | 21 | 81 | ■ | ■ |
| 2015 | 127 | 8 | 23 | 79 | ■ | ■ |
| 2016 | 154 | 6 | 34 | 107 | ■ | ■ |
| 2017 | 57 | 29 | 31 | 15 | ■ | ■ |
| 2018 | 26 | 12 | 17 | 12 | ■ | ■ |
| 2019 | 26 | 11 | 9 | 11 | ■ | ■ |
| 2020 | 45 | 28 | 5 | 23 | ■ | ■ |
| 2021 | 25 | 17 | 6 | 17 | ■ | ■ |
| Total | 843 | 143 | 232 | 497 | ■ | ■ |

Note: Ten registrations in 2013 are not recorded with designation type and not reported in the table above.

IEA registration ratios and rates

Registration rate refers to the percentage of applicants with complete applications who apply in a given period and go on to register.

To calculate registration rate, all applications for the period must be resolved (registered or closed). A precise registration rate cannot be determined if there are applicants still in process at the end of the reporting period. This determination may be possible in future reporting years, when all the files are resolved.

In this report, three **indicators** are used to provide a tentative sense of the registration rate (see below). Reasons are provided as to which indicator likely best approximates the registration rate for CTTAM.

Registration to Application Ratio

PROS: allows a comparison of IEAs to DAs. DA data is aggregate and only tracks applications and registrations by year.

CONS: likely undercounts IEA registrations. IEAs who applied before 2011, but who registered in the reporting period (2011 to 2020), are not counted because data collection begins with IEAs applying in 2011 or later.

PROS: DA registrations are not under-counted.

PROS: for both IEAs and DAs, the registration to application ratio becomes a more accurate indicator of the registration rate the longer the reporting period grows relative to the average registration timeline.

Late Period Registration to Application Ratio (2016-2020)

PROS: lessens the undercounting of IEA registrations. Few IEAs who applied before 2011 will register later than 2016.

PROS: allows a more equitable comparison to DA registration to application ratio for the period.

CONS: limited because the period may be short relative to registration timelines and more sensitive to variations in application numbers.

Resolved Registration Rate

PROS: a strong indicator in circumstances where a high percentage of files are resolved (registered or closed).

PROS: knowing the number of unresolved files (files still in process) allows us to determine the range within which the registration rate falls for the period.

CONS: with only aggregate data for DAs, a resolved registration rate cannot be determined and so no comparison can be made with the IEA resolved rate.

REGISTRATION RATE INDICATORS: CALCULATIONS

Registration to Application Ratio

of registrations

÷

of complete applications in a given year or period

Late Period Registration to Application Ratio 2016-2020

of registrations, 2016-2020, of individuals applying between 2011-2020

÷

of complete applications made between 2016 and 2020

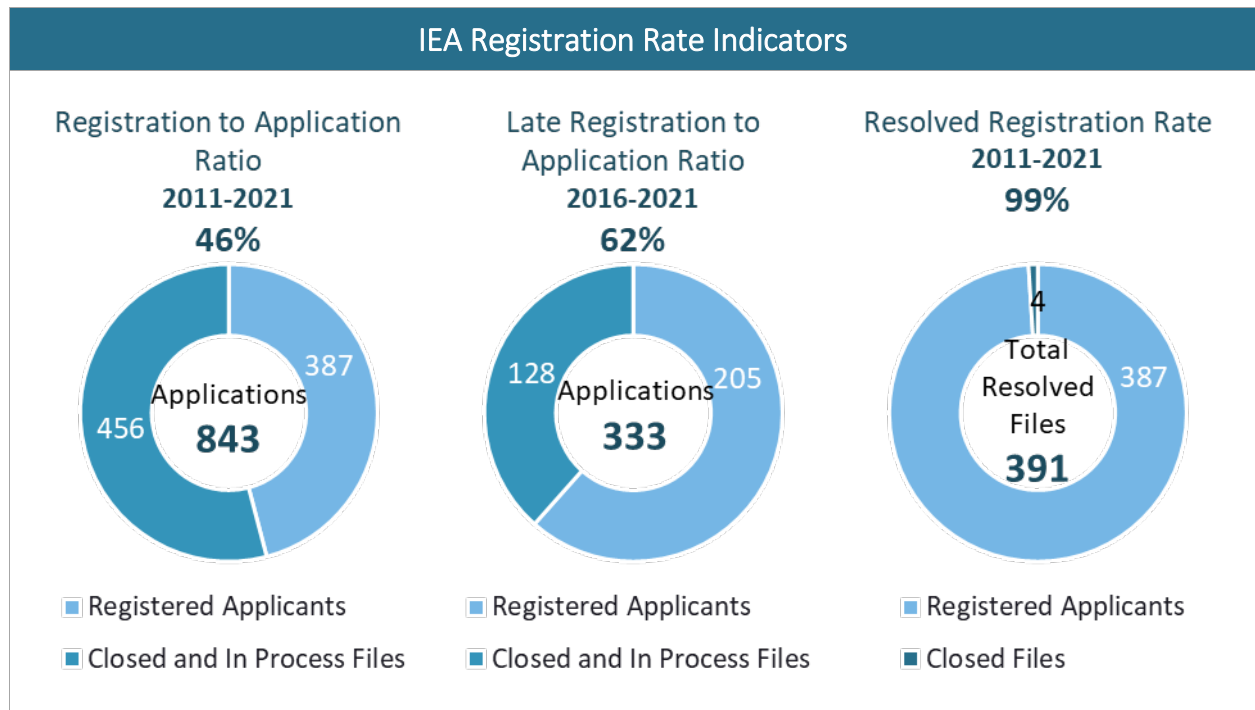
Resolved Registration Rate

of registrations

÷

of complete application, resolved files in a given year or period

CTTAM's registration rate



Registration to Application Ratio

The **46 per cent** registration to application ratio for the 2011 to 2021 period may undercount IEA registrations in the period and if so, undervalues CTTAM's true IEA registration rate. On the one hand, registration timelines are short in this profession, typically well under a year, which suggests this issue with undercounting may not be particularly significant. On the other, long registration timelines are a possibility, files are not closed out due to currency issues, and applicants can in theory take several years to register.

Late Period Registration to Application Ratio (2016 to 2021)

Looking at the later half of the reporting period, 2016 to 2021, CTTAM'S registration to application ratio rises to **62 per cent**. This figure is arguably more realistic so far as there are few, if any, uncounted registrations.

Resolved Registration Rate

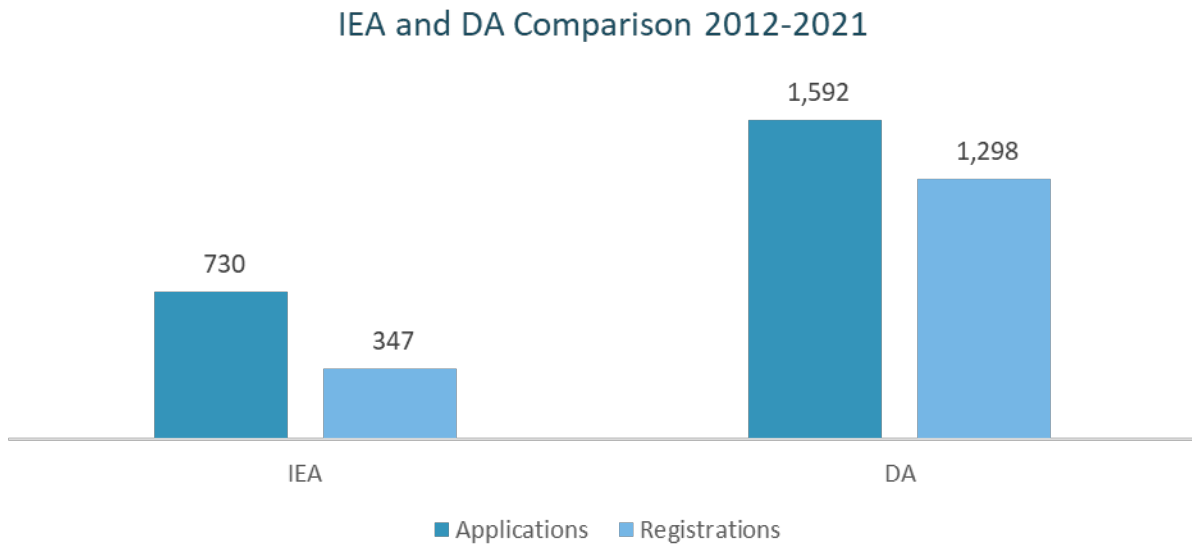
CTTAM's resolved registration rate of **99 per cent** is not a particularly helpful indicator. Only 46 per cent (391/843) of applications are resolved. The majority of IEAs remain provisionally registered, holding associate status at the end of the reporting period.

With regard to the range of the true registration rate, possible outcomes for the 452 unresolved files suggests it must be between **46 per cent** (387/843) — if all 452 applications are closed files — and close to **100 per cent** (839/843) — if all 452 register.

In this profession, the possibility of long registration timelines together with very few file closures does not allow a precise registration rate determination.

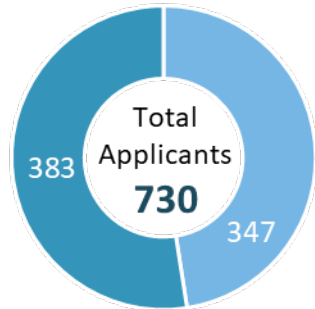
IEA to DA Registration Outcome Comparison 2012 to 2021

FRPO collects application and outcome aggregate data on domestically educated applicants (DAs) to compare outcomes of DAs to IEAs. Data collection for DAs began in 2012. Comparisons below to IEAs is for the 2012 to 2021 period.



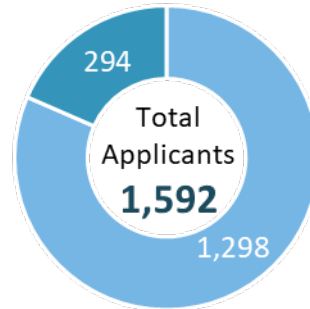
IEA to DA Registration to Application Ratio Comparisons

**IEA Registration to Application Ratio
2012-2021
48%**



- Registered Applicants
- Closed and In Process Files

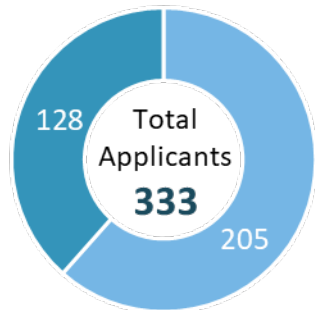
**DA Registration to Application Ratio
2012-2021
82%**



- Registered Applicants
- Closed and In Process Files

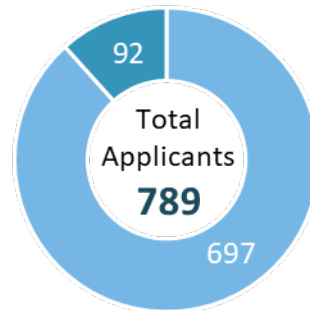
In this comparison, DAs were 1.7 times more likely to become registered than IEAs.

**IEA Late Registration to Application Ratio
2016-2021
62%**



- Registered Applicants
- Closed and In Process Files

**DA Registration to Application Ratio
2016-2021
88%**



- Registered Applicants
- Closed and In Process Files

In this comparison, DAs were 1.4 times more likely to become registered than IEAs.

CTTAM's registration data indicates IEAs are less successful as DA's for the 2012 to 2021 and 2016 to 2021 reporting periods.

IEA top five country of education and registration outcomes ranked by number of applicants

| Rank | Country of Education | 2011-2021 Number of Applicants | Number of Registrations | Registration to Application Ratio |
|------|----------------------|--------------------------------------|----------------------------|--------------------------------------|
| 1 | Philippines | 392 | 212 | 54% |
| 2 | India | 124 | 39 | 31% |
| 3 | Israel | 49 | 19 | 39% |
| 4 | Nigeria | 38 | 11 | 29% |
| 5 | Ukraine | 25 | 17 | 68% |

IEA top five country of education and registration outcomes ranked by registration to application ratio

| Rank | Country of Education | 2011-2021 Number of Applicants | Number of Registrations | Registration to Application Ratio |
|------|----------------------|--------------------------------------|----------------------------|--------------------------------------|
| 1 | Germany | 8 | 8 | 100% |
| 2 | Ukraine | 25 | 17 | 68% |
| 3 | Brazil | 17 | 10 | 59% |
| 4 | Philippines | 392 | 212 | 54% |
| 5 | Russian Federation | 24 | 10 | 42% |

Representing 47 per cent of applications, the registration to application ratio for CTTAM’s most common country of education, Philippines, was 54 per cent. Among countries with five or more applicants and ranked by application to registration ratio, Germany had the strongest registration rate (100 per cent).

IEA pre-arrival statistics, registrations and timelines with post-arrival comparison

| IEA Pre-/Post-Arrival Comparison | | | | |
|----------------------------------|------------------------|-------------------------|-----------------------------------|-------------------------------------|
| Application Initiated: | Number of Applications | Number of Registrations | Registration to Application Ratio | Median Time to Registration (years) |
| Pre-Arrival | 1 | 1 | 100% | 1.9 |
| Post-Arrival | 842 | 386 | 46% | 0.2 |

In many professions, applicants applying pre-arrival are more successful than those who apply post-arrival. This may be due to better preparation and access to documents abroad.

In CTTAM’s case, almost all IEAs applied post-arrival. The low number of pre-arrival applications does not allow a meaningful comparison.

Registration Timelines 2011 to 2021

IEA average, median time to provisional registration and registration

| Average time to registration 2011-2021 | | Median time to registration 2011-2021 | |
|--|--------------|---------------------------------------|--------------|
| Provisional | Registration | Provisional | Registration |
| 0.2 year | 0.6 year | 0.1 year | 0.2 year |

CTTAM’s assessment and registration timelines to registration and provisional registration are short, well under a year.

*These registration timelines are calculated using data from 307/308 applicants for whom complete timeline information has been collected. The provisional registration timelines are calculated using data from 294/299 applicants for whom complete timeline information has been collected.

| Average time to registration 2011-2021 | | Median time to registration 2011-2021 | |
|--|---------------|---------------------------------------|---------------|
| Technicians | Technologists | Technicians | Technologists |
| 0.5 year | 0.6 year | 0.3 year | 0.2 year |

Breaking down registration timelines by the technician and technologist designations shows little difference between these groups.

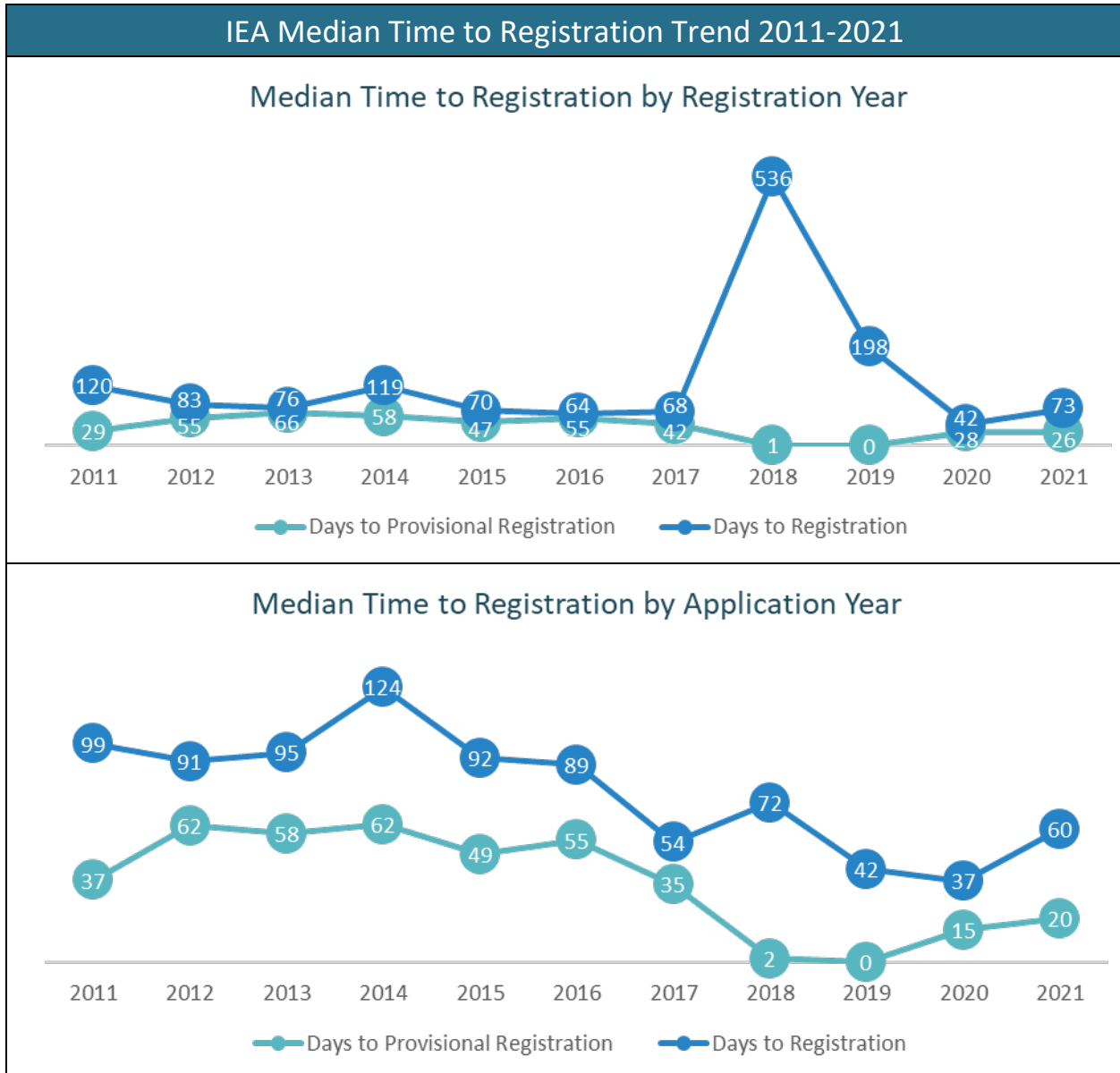
*The technician registration timelines are calculated using data from 230/232 applicants for whom complete timeline information has been collected. The technologist registration timelines are calculated using data from 143/144 applicants for whom complete timeline information has been collected.

Short Registration Timelines and Work Experience

CTTAM’s short registration timelines, well under a year, may be unexpected given the mandatory requirement to complete two years of professional experience, one of which needs to occur in Canada. However, CTTAM recognises work experience acquired in Canada prior to registration. As this is a right to title profession and work in the field is possible without registration, many IEAs are credited with meeting CTTAM’s Canadian work experience requirement upon application.

Trends

In this section, registration data is examined for the evidence of changes in registration rates and timelines over the 11-year reporting period. In some cases, changes to assessment and registration practice can be identified impacting the registration data.



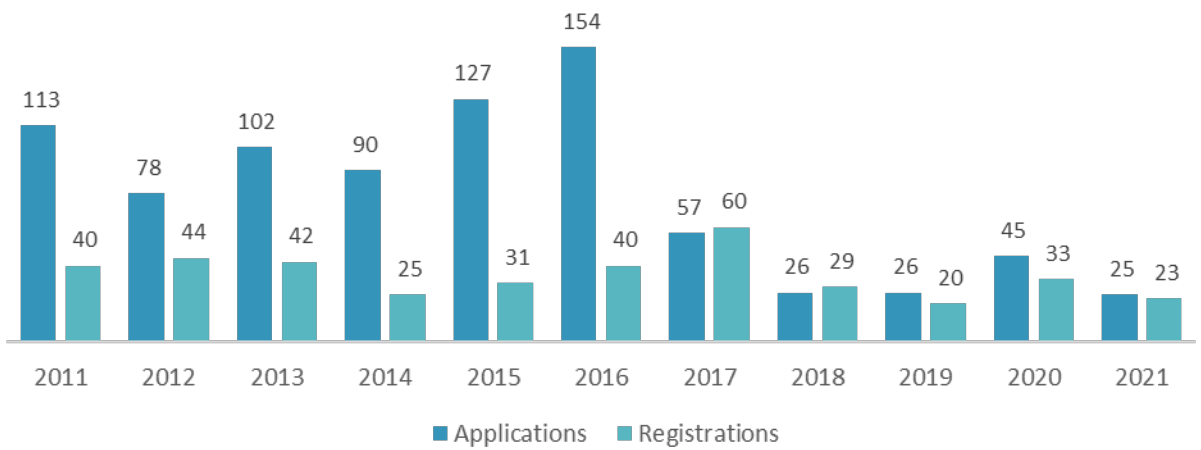
The graphs above presents the median timeline to provisional registration and registration across an 11-year period from 2011 to 2021. The first graph indicates the median time to registration for the **registrations** that occurred in a reporting year; the second graph, the time to registration for the **applicants** who applied in that year and went on to register. For instance, in 2017, the first graph indicates that the registrations that occurred in that year took a median of 68 days. The second graph shows that for the applicants who applied in 2017 and went on to registration, the median time was 35 days.

CTTAM's registration timelines remain short throughout the reporting period with the exception of the registration timelines in 2018 and 2019; provisional registration timelines remain low throughout. The 2018/19 spike is likely due to the introduction of new assessment policies at this time with several provisionally registered IEAs re-applying for assessment in these years.

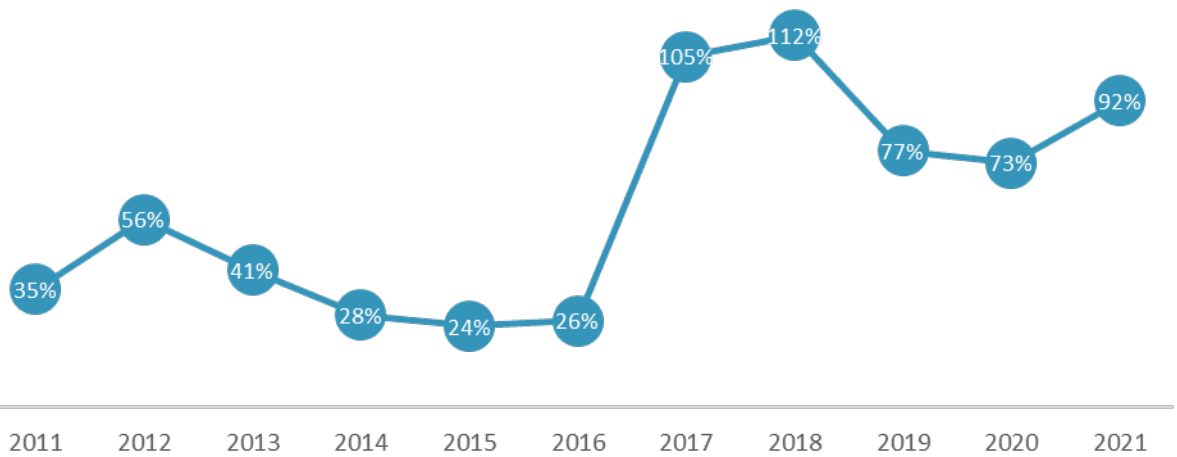
Examining registration timelines by application year, there appears to be a trend toward slightly decreasing timelines for both registration and provisional registration.

IEA Application and Registration Rate Trend

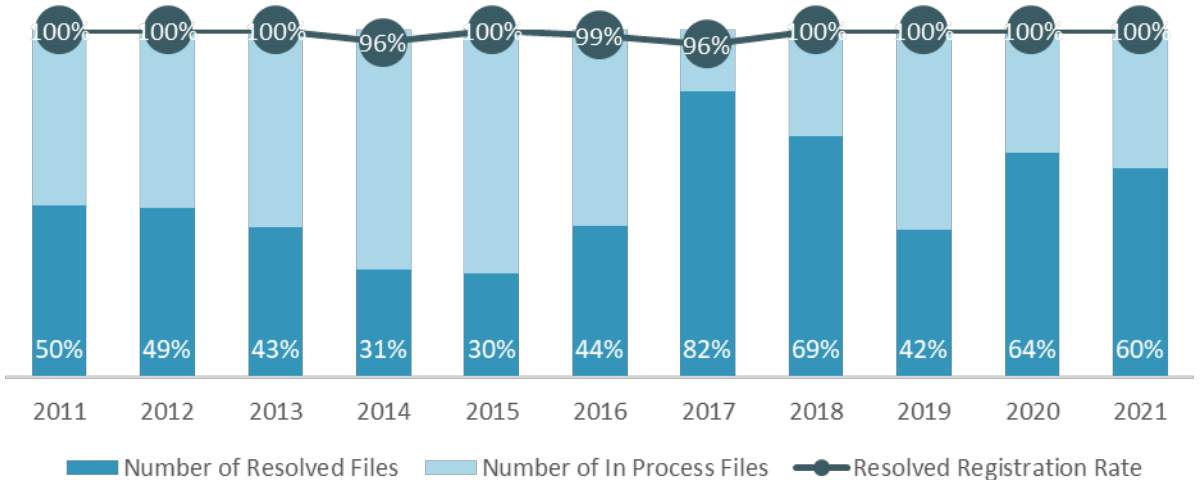
IEA Applications and Registrations by Year



Registration to Application Ratio by Year 2011-2021



Resolved Registration Rate by Year as of 2021



Registration rates appear to improve toward the end of the reporting period.

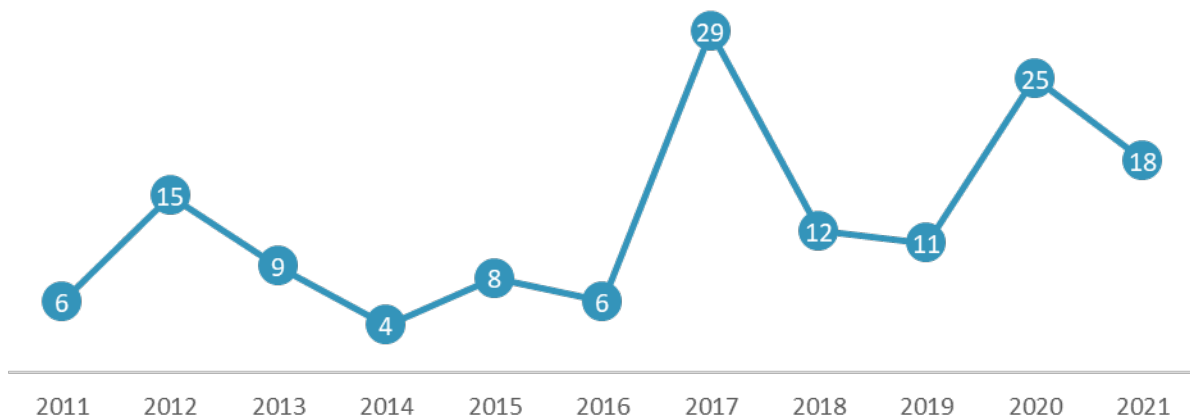
Registrations remained relatively stable throughout the reporting period with both decreasing registrations and applications in the latter half of the reporting period. However, applications dropped at a significantly greater rate than registrations and so the ratio of registrations to applications improves in the latter half of the reporting period, from 2017 to 2021.

CTTAM's resolved registration rate graph (lower graph) is not helpful tracking changes in registration rates across the period. Very few of CTTAM's files are resolved as closed; applicants are either registered or registered provisional. This means a resolved registration rate is nearly 100 per cent year after year, as registrations are tracked against the rare, closed file.

Improved registration rates in the later part of the period are likely tied to changes in CTTAM's assessment policy in 2017, with the introduction of Competency Exams and the recognition of Engineers Geoscientist Manitoba (EGM) assessments.

A cautionary note: the high number of unresolved files, those individuals either provisionally registered or in process at the end of the reporting period, tempers any definitive statement about the improvement in registration rate.

Number of Technologist Registrations by Year, 2011-2021



CTTAM registered significantly more technologists in the latter part of the reporting period. There is a notable increase annually beginning in 2017. This corresponds with CTTAM's assessment policy change in 2017, introducing competency exams and recognizing EGM's assessments. These policy changes have allowed more applicants to qualify for CTTAM's technologist designation.

Data Collection Moving Forward

The quality of data provided by CTTAM for the 2011 to 2021 period is strong. IEA outcomes and timelines are presented throughout the registration process and IEA registration pathways are clear.

At this time, there is no need to introduce new elements or values to CTTAM's data template. Moving forward, future data reporting will provide a larger reporting window and support more insightful analysis with a more definitive identification of trends and outcomes.

In collaboration with FRPO, CTTAM has a history of working to improve data collection. This has involved implementing and revamping data collection tools and documents, providing annual data submissions and validating data submissions. Most recently, this includes work reviewing this report; this report would not have been possible without CTTAM's commitment and collaboration.