IMMIGRANTS WITH ENGINEERING BACKGROUNDS (IEBs) SETTLING IN ONTARIO

WHAT YOU NEED TO UNDERSTAND ABOUT ENGINEERING AND LICENSING

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THE COUNCIL FOR ACCESS TO THE PROFESSION OF ENGINEERING (CAPE)

- Evolving membership based organisation for the following categories of immigrants with engineering backgrounds living in Ontario
  - *1016 Members from across the province*
  - *coalition of 20 existing and evolving community engineering associations (estimated 10 to 12 thousand members)*
  - *Potential new entrants (estimated at over 7,000 per year)*

WHY IS CAPE NEEDED?

- Huge unemployment problem
- Poor labour market information
- 75% of all skilled immigrants coming to Canada and Ontario self declare themselves as engineers, engineering technicians and technologists
- Only 15% hold any meaningful engineering jobs
- Less than 5% of them get licensed.

CAPE VISION

- Maximize IEB potential to contribute to their:
  - Local communities
  - Province
  - Country
  - Planet
- Through
  - Meaningful and productive utilization of engineering knowledge and experience
  - Upgrading their knowledge and skills in keeping with evolving trends in engineering and its development.

COMMUNITY ACTION RESEARCH

Through 'Engineering Access' a community action research Project (funded by Canadian Heritage and CAPE in almost equal shares) we have:

- Developed an effective and legitimate voice for immigrants with engineering backgrounds;
- Documented barriers facing employers and immigrants with engineering backgrounds to labour market integration
- Developed labour market information and tools to promote cross-cultural understanding within the engineering workplace in Ontario
- Set up an interactive website

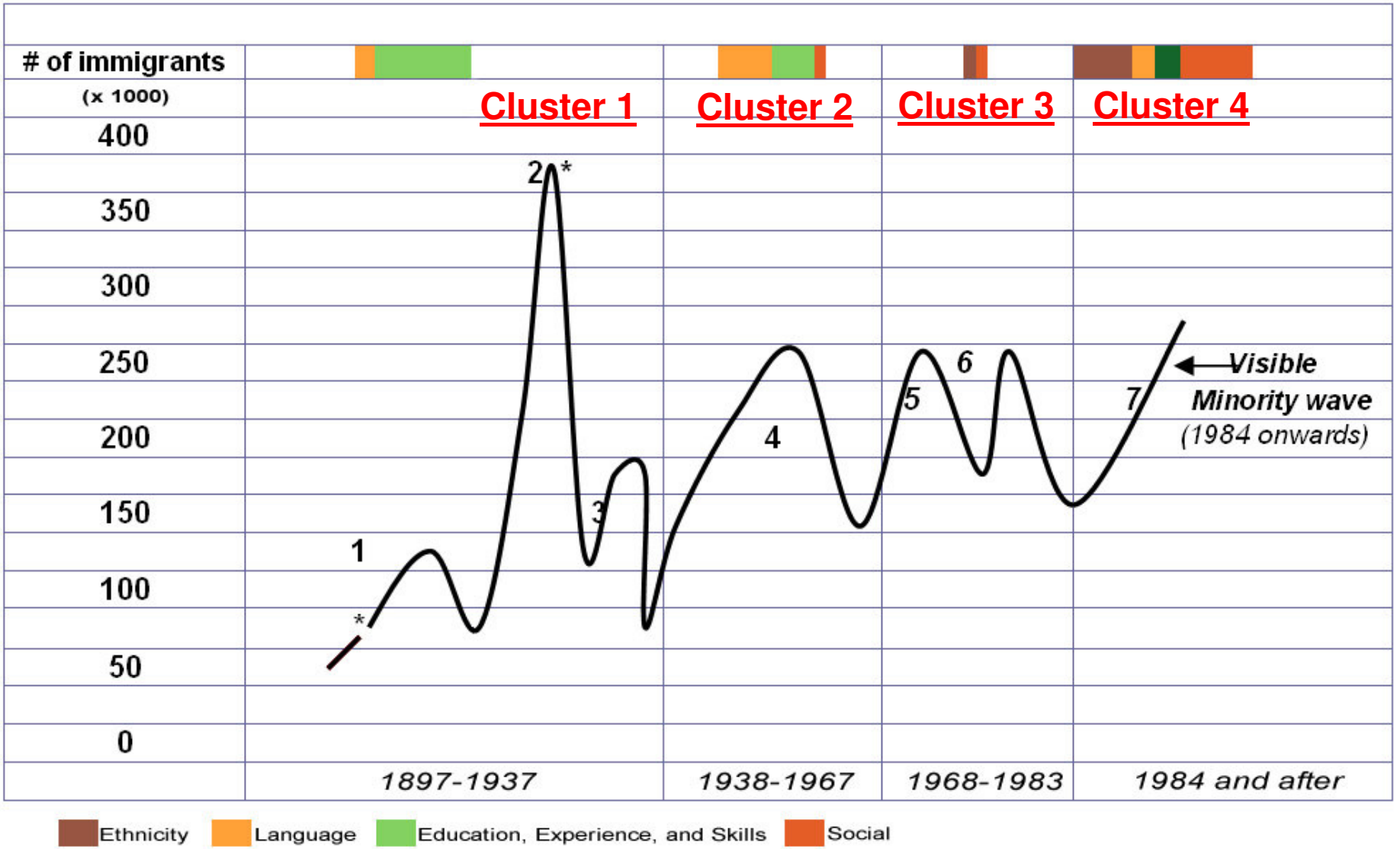
CAPE MEMBERSHIP

- Multi-cultural from over 70 countries
- Multi-disciplinary – 23 engineering disciplines
- Inter-disciplinary – sometimes holding qualifications in multiple disciplines (IT in particular)
- Highly educated 65% Bachelors, 29% Masters 5% Doctorates
- Extensive global experience – 12.2 years on average
- Over 50% have been in Ontario for more than 2 years.

IEB SURVEY

- By Region
- Range of qualifications
- Range of disciplines
- Length of stay
- Years of experience
- Employment status

UNDERSTANDING BARRIERS TO ACCESS
CANADIAN 'EXPERIMENTS' IN DIVERSITY



CLUSTER 1(THREE WAVES): 1897-1937
FIRST WORLD WAR

- Preferred source countries – white commonwealth
  - Britain, United States, Newfoundland, South Africa, Irish Free State, New Zealand, Australia
- Wave 1: Miners, engineers and scientists
  - set up Canadian Society of Civil Engineers (CSCE) to control supply of engineers
- Wave 2: WW1Refugees and Returning Military engineers led to competition
  - CSCE devolved to provinces leading to formation of Professional Engineers of Ontario in 1922
  - Licensing made mandatory 1937
  - Language disconnect
- Wave 3: Unskilled workers and refugees (Non-preferred European)
  - Voluntary settlement organizations setup in response to language disconnect of immigrants from non-preferred European countries

CLUSTER 2 (ONE WAVE): 1938-1967
SECOND WORLD WAR

- Wave 4 - 'Non-preferred' source countries
  - Eastern and Southern Europe (language and education system disconnect)
- Expansion of universities and community colleges?
- Refugees WWII, unskilled workers (trades and technicians) and few professionals
  - Reserved title for Engineers introduced by PEO to set apart Engineers and technicians (gate-keeping)
  - Academic accreditation
- Certification of technicians initiated by PEO
  - OACETT set up in 1961
- Underutilization of skilled tradespersons
  - Voluntary ethno-cultural community settlement organizations e.g COSTI (1961) set up to provide training and retraining to Italians or language training and bridging education (Polish engineers)

CLUSTER 3(TWO WAVES): 1968-1983 ECONOMIC SLOWDOWN AND STAGNATION

- Non-preferred and non-traditional source Countries
  - Mostly non-preferred European (language and education disconnect); and
  - a few from non-traditional countries (social, cultural and partial language disconnect)
- Bill of Rights (1960) and Charter of rights (1982)
- Shortage of skilled workers
- Expansion of community colleges
- Wave 6 – Skilled workers based on point system
  - Prearranged Employment a condition for skilled workers
- Education or language disconnect irrelevant
- Settlement services formally handed over to voluntary and ethno-cultural community organizations
  - mandate extended to include employment support for non-skilled workers and refugees.

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CLUSTER 4 (ONE WAVE): 1984 TO DATE RESTRUCTURING AND GLOBALIZATION

- Overwhelmingly diverse and non-traditional source countries
  - **largely commonwealth countries but social, ethnic and cultural disconnect**
- Points geared to highly educated and experienced immigrants
  - **Pre-arranged employment condition eliminated**
  - **Tenfold increase in immigrants with engineering credentials (Competition)**
- Although immigrants more educated and experienced than host population but
  - **employers risk averse due to lack of knowledge of foreign credentials**
  - **Protection of life, health, property and public welfare introduced into licensing in 1984 by PEO**
  - **Experience accreditation and Canadian Experience introduced into licensing by PEO in 1990 (gate-keeping)**
- Employment support for non-skilled workers and refugees extended to assist IEBs and other professionals
  - **To bridge surplus skills/qualifications or employers lack of foreign credentials?**
  - **New Ethno-cultural engineering associations formed**
  - **Translated into ESL, LINC**

EMPLOYER ISSUES

- Employers lack knowledge of foreign credentials
- Employers lack knowledge of other country experience
- Depend on human resources firms/departments to transform job description into hired worker
- Through recruitment process Employers 'risk adversity' translates into:
  - Hiring 'Canadians first' as justifiable 'exact fit'
  - Demands for 'Canadian Experience'
  - Demands for PEO License or other local accreditation
  - Demands for language and work place culture compatibility

PROFESSIONAL ENGINEER LICENSE

- Engineering is self-regulated by professional engineers of Ontario (PEO) in the interests of the public
- Character requirements – resident of Canada, 18yrs or older, of good character etc **(over 99%)**
- Academic requirements – a CEAB accredited Bachelors degree in Engineering or equivalency determined on an individual by individual basis by the PEO Academic Review Committee **(60-70%)**
  - Confirmatory exams between four and twenty
  - Can be waived by asking for a interview with the Experience Review Committee
- The professional Practice and Ethics Examination **(60-70%)**

1. 48 months of acceptable engineering experience **(60-70%)** of which 12 months must be under an engineer licensed in Canada **(5%)**

ISSUES FACING IMMIGRANTS WITH ENGINEERING EXPERIENCE AND CREDENTIALS

- ‘Reserved Title’ that strips them of all professional engineering experience or credentials on landing
- Multiple time-consuming equivalency assessments comprising:
  - Academic Accreditation – Individual by Individual from federal, provincial, employment specific, academic specific, regulatory requirements etc.
  - Experience Assessment by employers who have inadequate or outdated other country knowledge?
- Inadequate labour market integration information
- Inadequate immigration decision support information
- Poor social, ethnic or cultural links to the host population
- No space in which to demonstrate their skills, knowledge or proficiencies other than employment supports not geared to their needs.

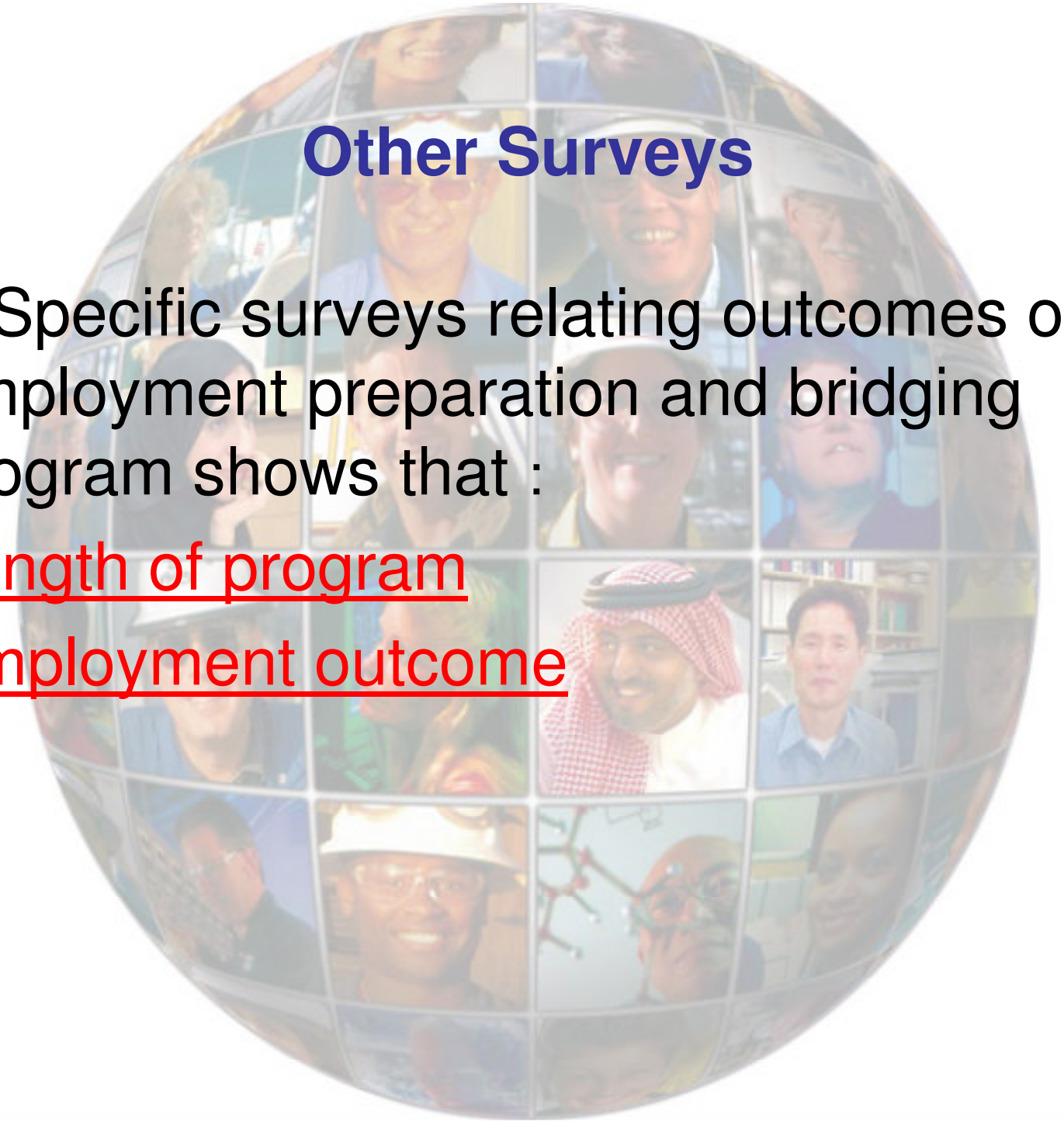
BASIC ASSUMPTIONS AND CONSIDERATIONS

The following are some assumptions and considerations CAPE proposes to address under the current ecological, societal and economic demands within the context of the changing demography of Ontario:

- Are the increasingly inevitable differences in education and experience always a Deficit?
- Is equivalency inherently valuable and desirable?
- Can differences in knowledge and experience translate to equivalency based on bridging systems balanced on single pillars for equivalency to gain access to professional employment?
- What are the likely effects of emerging engineering trends and globalization of labour, goods and services on Ontario?

EMPLOYED MEMBERS

- Range of qualifications
- Years of experience
- Length of stay
- Employment
- Salaries



Other Surveys

A Specific surveys relating outcomes of employment preparation and bridging program shows that :

- Length of program
- Employment outcome

Who defines difference and why?

- Regulator – to protect the profession and the public
- Employer – to define labour market needs
- Others
  - **Training and education to bridge deficits**
  - **Advocacy groups to protect wages/equity**

HOW IS CAPE IS SUPPORTING IEBs

- CAPE has built up a factual picture of the human resources represented by IEBs by building up its membership (This is free to all IEBs)
- CAPE has developed labour market and licensing information relevant to IEBs
- CAPE has developed an advisory and decision support for IEBs that includes:
  - a GIS based tool to locate employers of professional engineers across Ontario
    - A resume builder specifically for engineers
    - Is developing a mentoring tool for IEBs
- CAPE has made submission to PEO, MTCU, the George Thompson Commission and the Standing Committee of the House of Commons on immigration

WHAT CAPE IS DOING TO ADDRESS EMPLOYMENT OF IEBS

- CAPE is engaging employers in developing an employment strategy for IEBs through a series of six multi-stakeholder roundtables

- CAPE is now moving to identify those occupations that are open to engineers but do not require a license

- CAPE will not promote the de-skilling of IEBs, de-legitmising of their credentials or other downward mobility of its members

OTHER ISSUES

•CAPE is raising the following pertinent questions with the government and other stakeholders

- Higher levels of education – deficit?
- Global experience – negated
- International Credentials – denied legally by reserving titles
- Canadian experience – inaccessible and undefined
- Equivalency Criteria for experience not defined
- Accreditation, Language training and testing underdeveloped and not synchronized federal/provincial levels
- Employment support and upward bridging

TO JOIN CAPE VISIT OUR WEBSITE

WWW.CAPEINFO.CA

IEB Survey- Range of disciplines

Engineering Discipline	Number
Civil Engineering	177
Electrical and Electronics Engineering	162
Mechanical Engineering	154
Engineering Managers	82
Industrial and Manufacturing Engineering	72
Chemical Engineering	56
Software Engineering	32
Electrical and Electronics Engineering Technologists and Technicians	30
Geological Engineering	6
Railway and Yard Locomotive Engineering	6
Civil Engineering Technologists and Technicians	25
Computer Engineering (Except Software Engineering)	29

Next

IEB Survey- Range of disciplines (Continued)

Engineering Discipline	Number
Metallurgical and Materials Engineering	21
Engineering Inspectors and Regulatory Officers	16
Industrial Engineering and Manufacturing Technologists and Technicians	15
Petroleum Engineering	14
Aerospace Engineering	13
Mechanical Engineering Technologists and Technicians	13
Mining Engineering	9
Engineering Officers, Water Transport	8
Stationary Engineering and Auxiliary Equipment Operators	7
Geological Engineering	6
Railway and Yard Locomotive Engineering	6
Other Professional Engineering, n.e.c.	35

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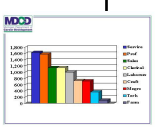
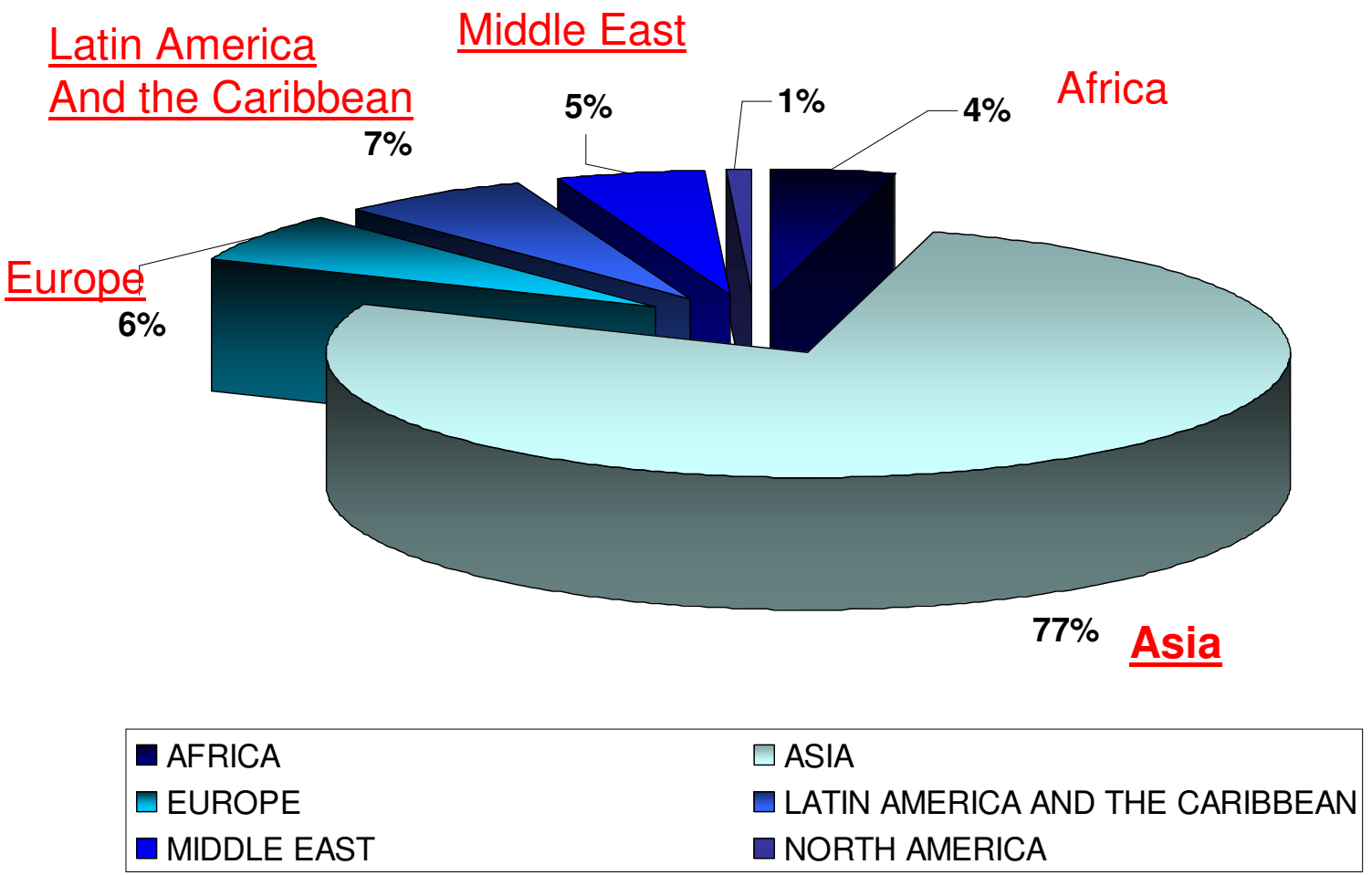
chart



MEMBERS FROM DIFFERENT REGIONS



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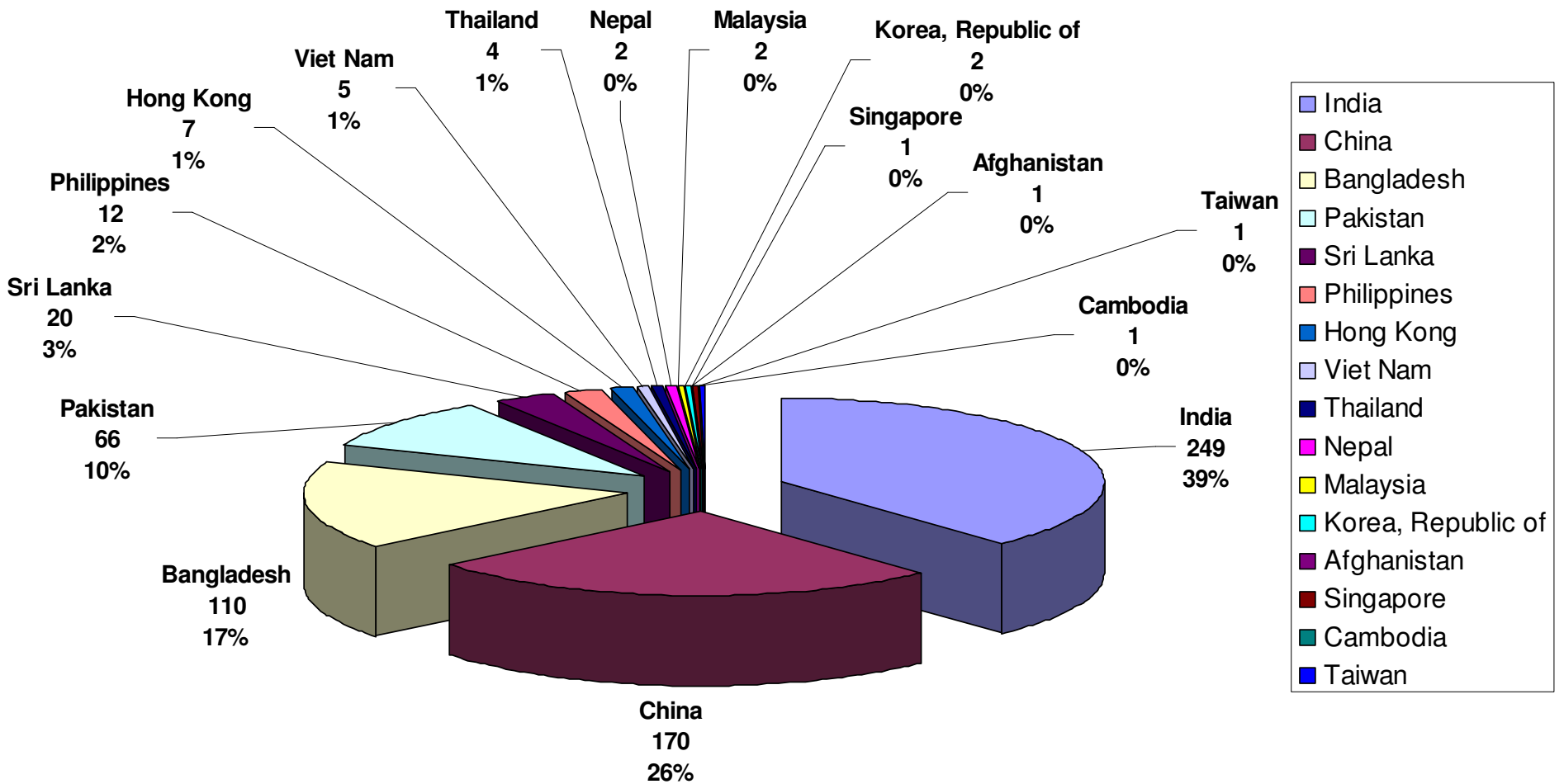
Members from Asian countries



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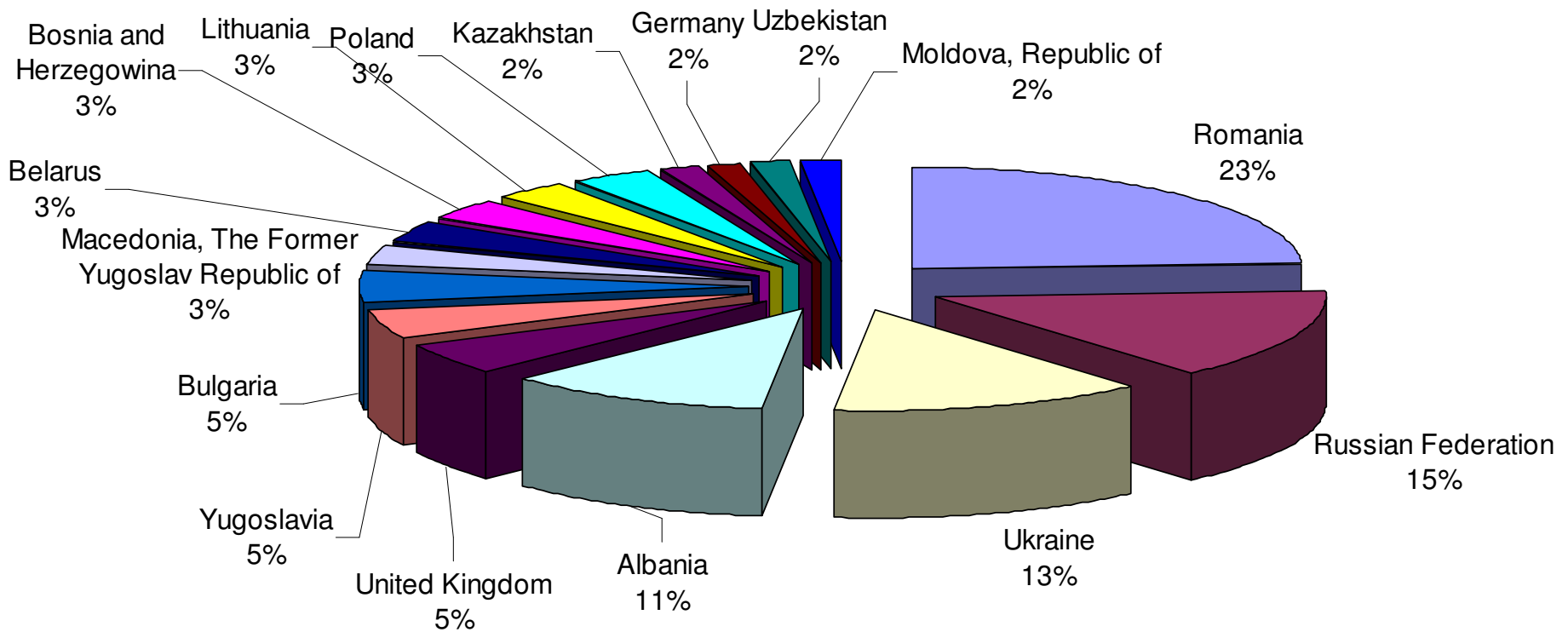
Members from European countries



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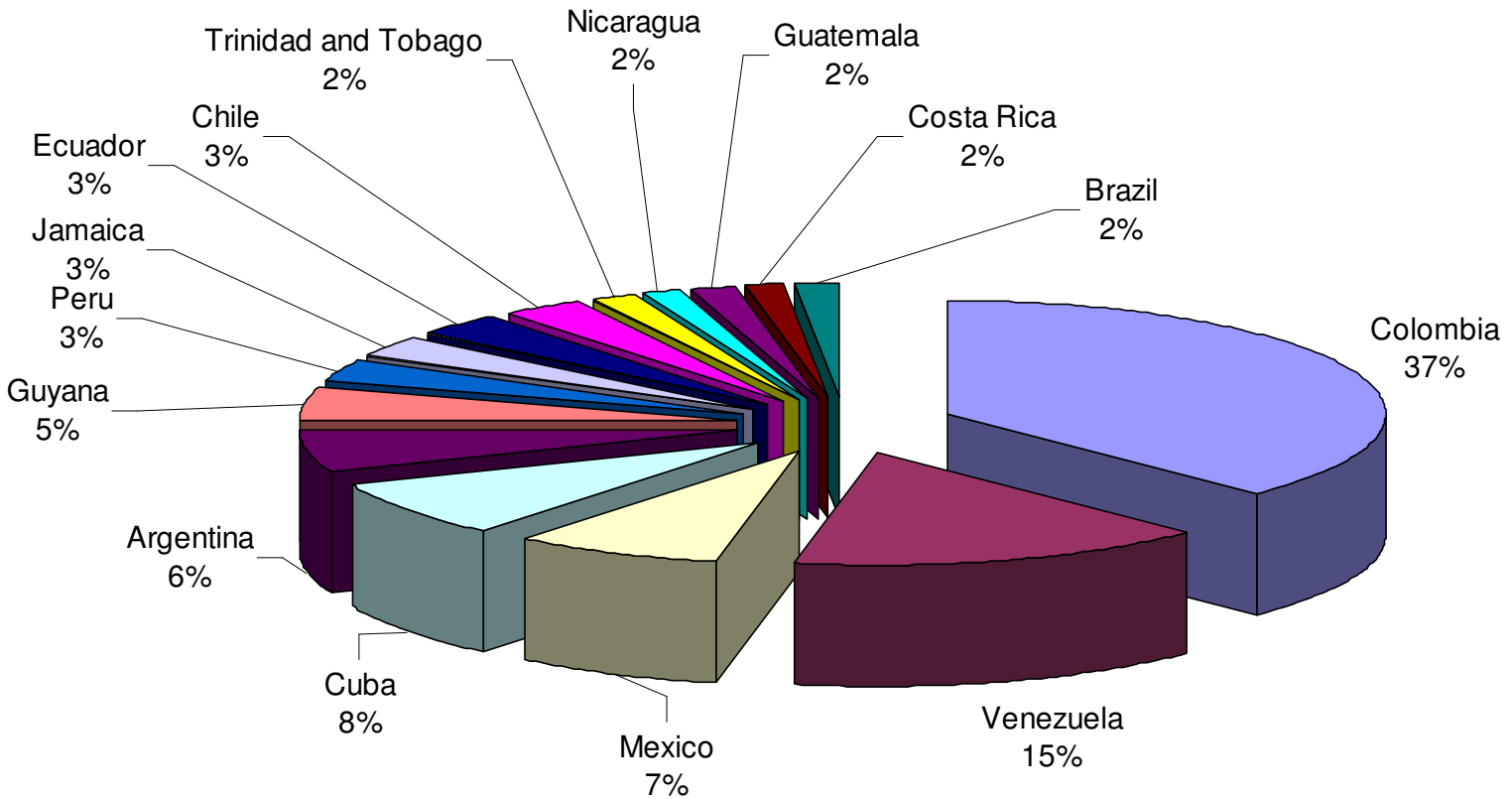
Members from Latin American and the Caribbean countries



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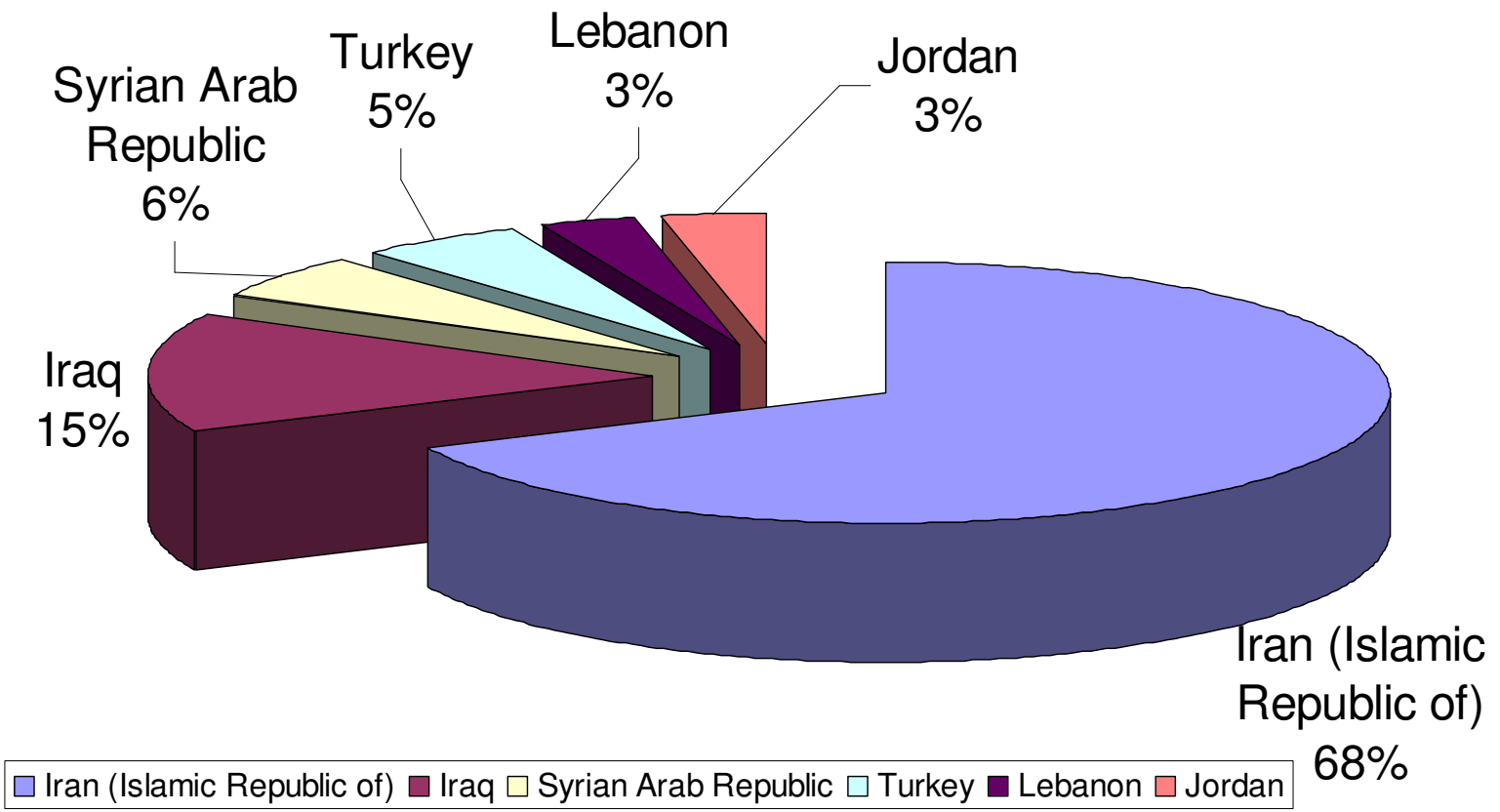
Members from Middle Eastern countries



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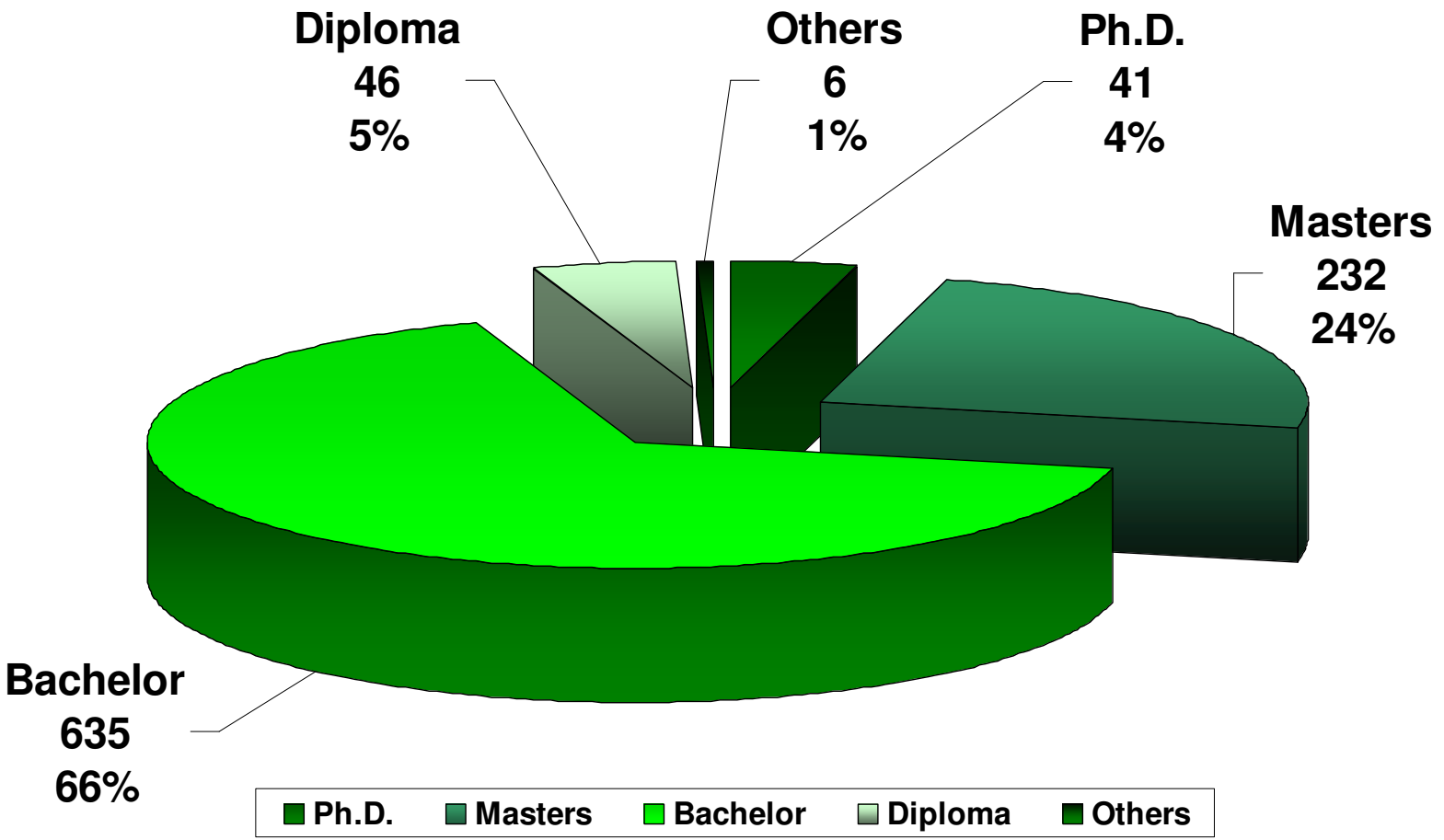
RANGE OF QUALIFICATIONS



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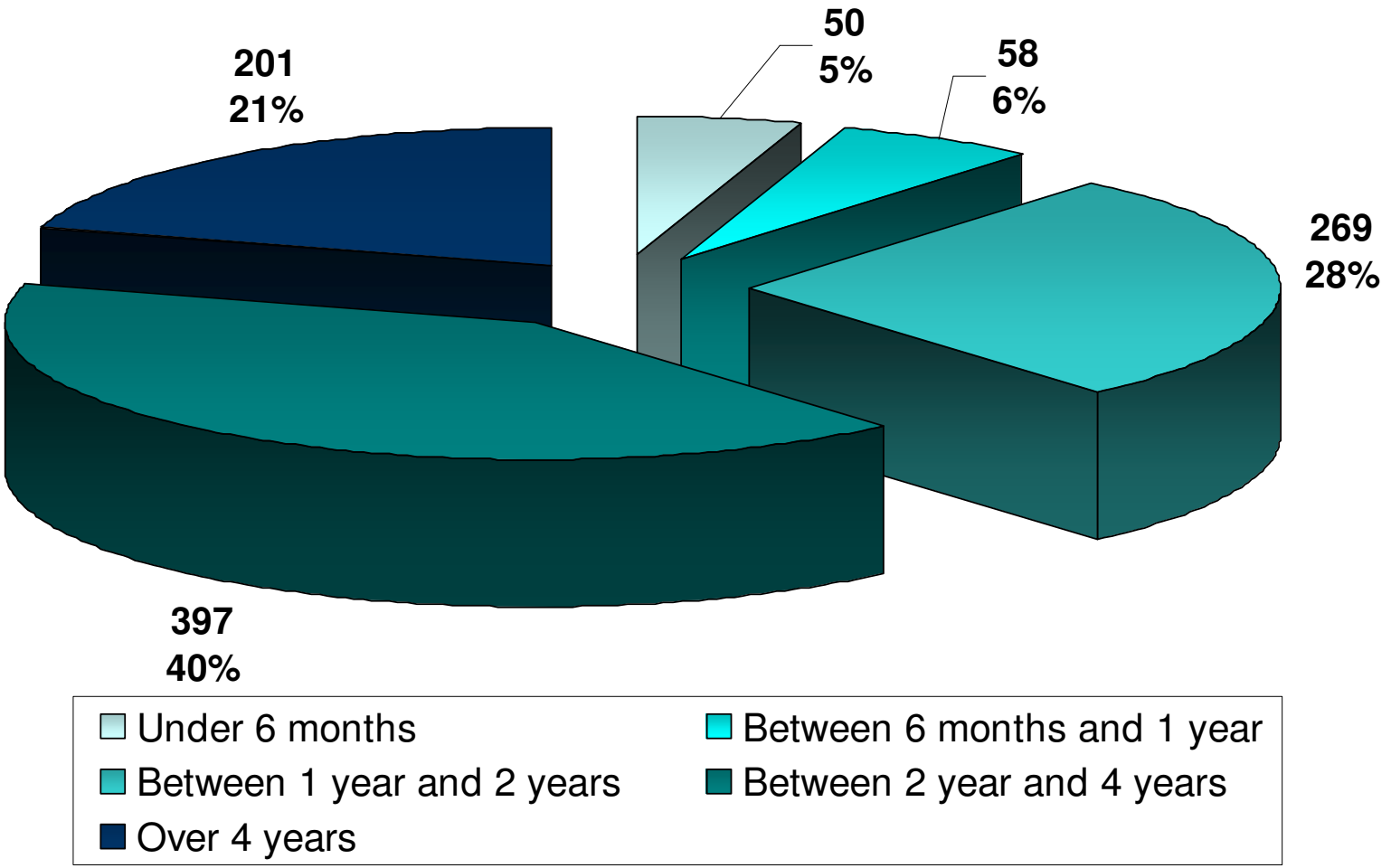
LENGTH OF STAY IN CANADA



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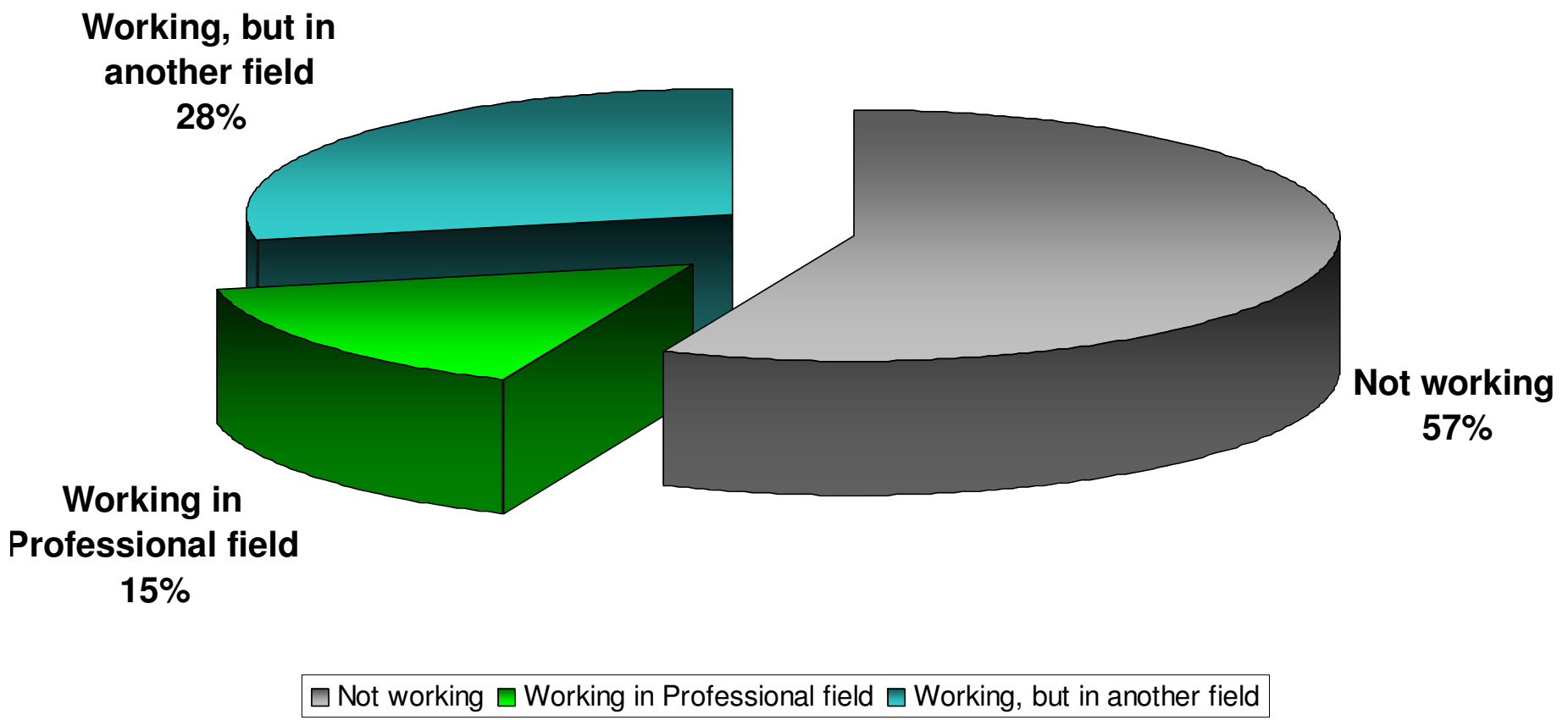
EMPLOYMENT STATUS



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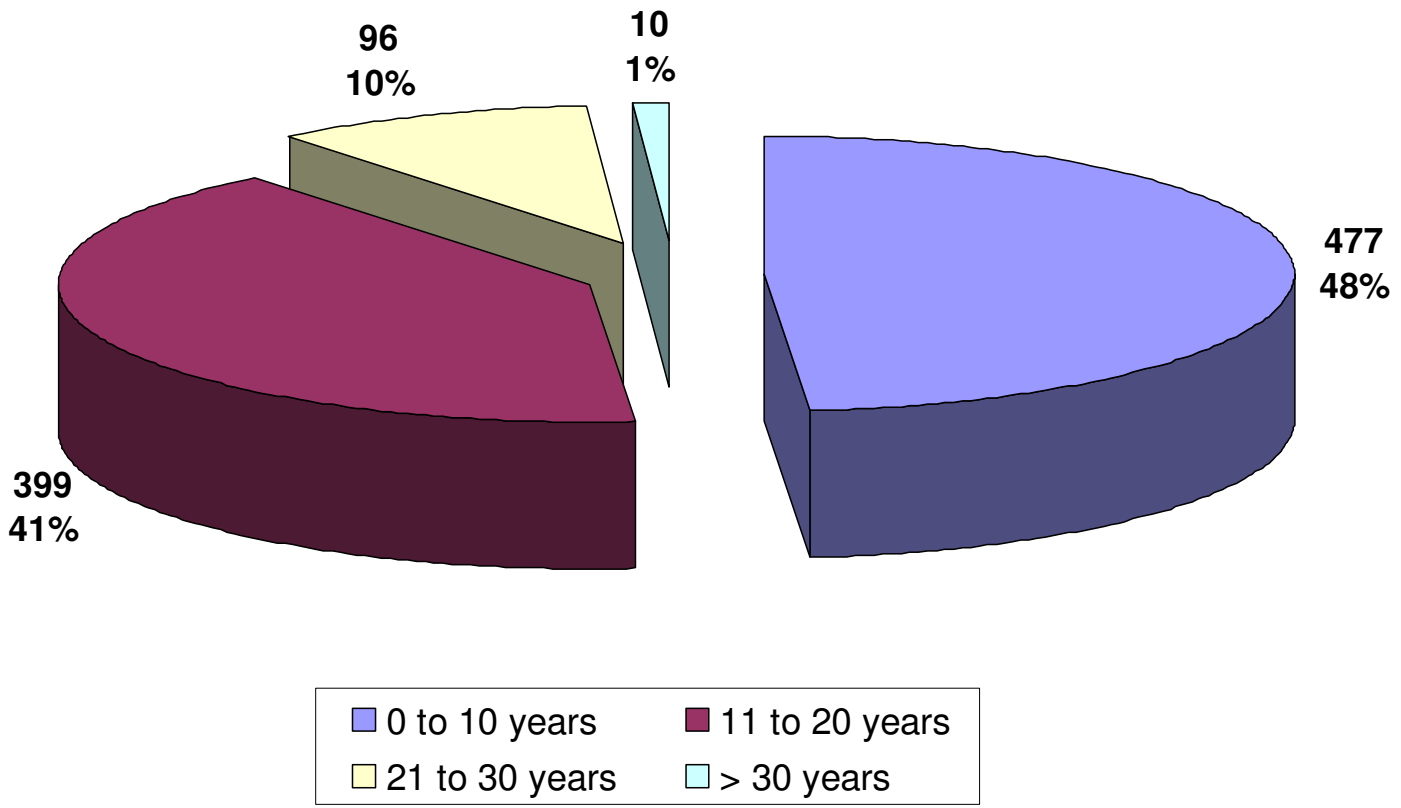
YEARS OF ENGINEERING EXPERIENCE



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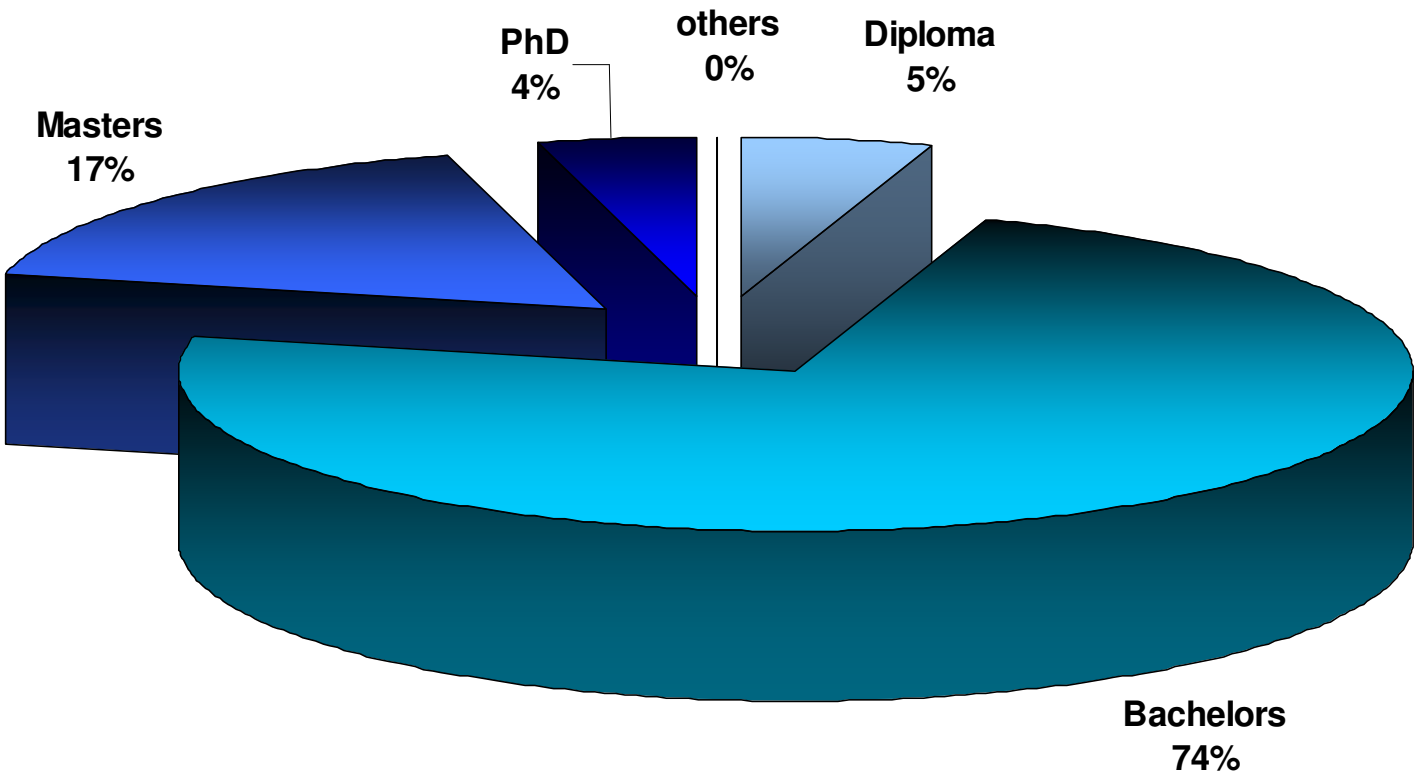
EMPLOYED MEMBERS - QUALIFICATIONS



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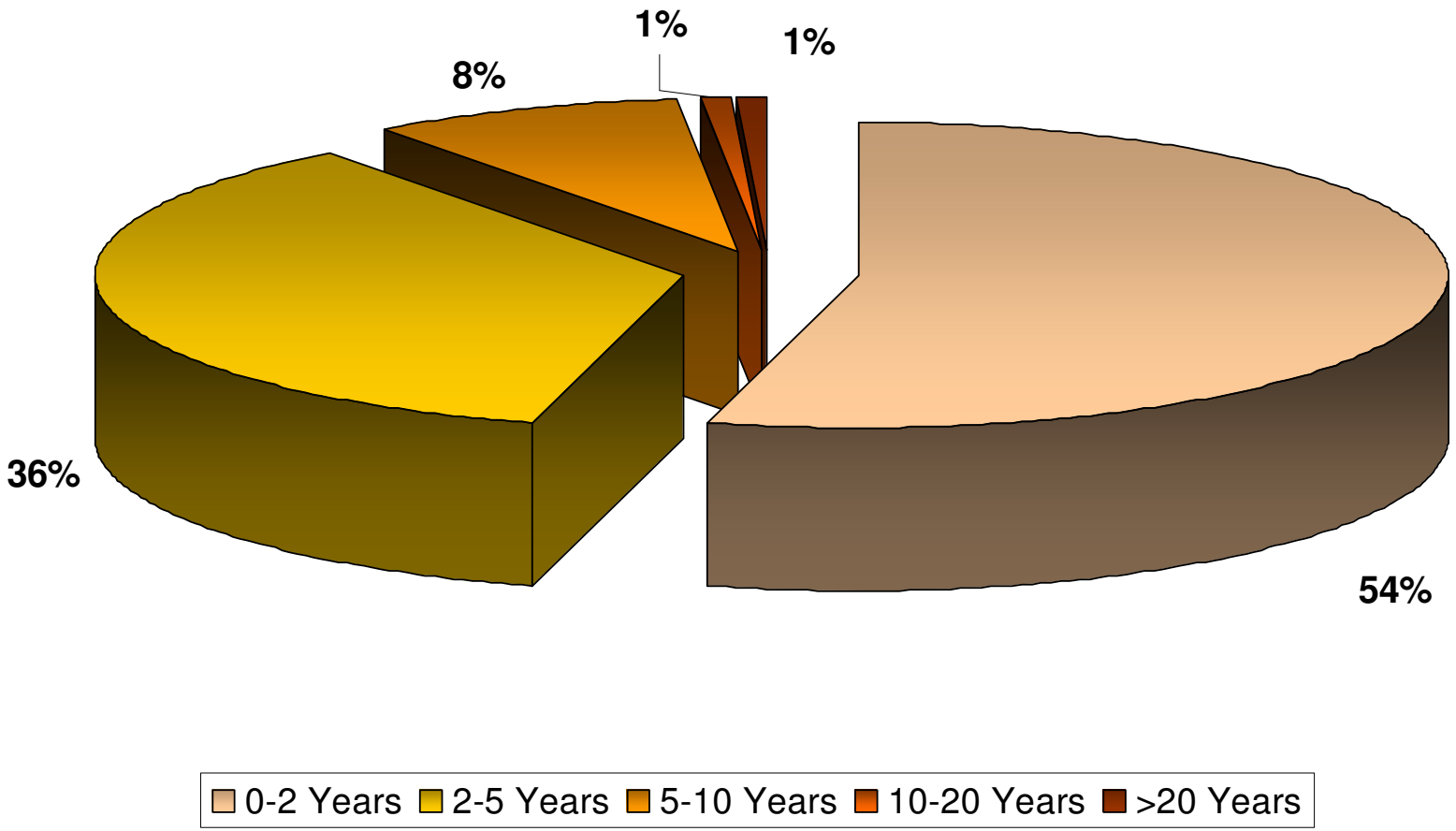
EMPLOYED MEMBERS -LENGTH OF STAY



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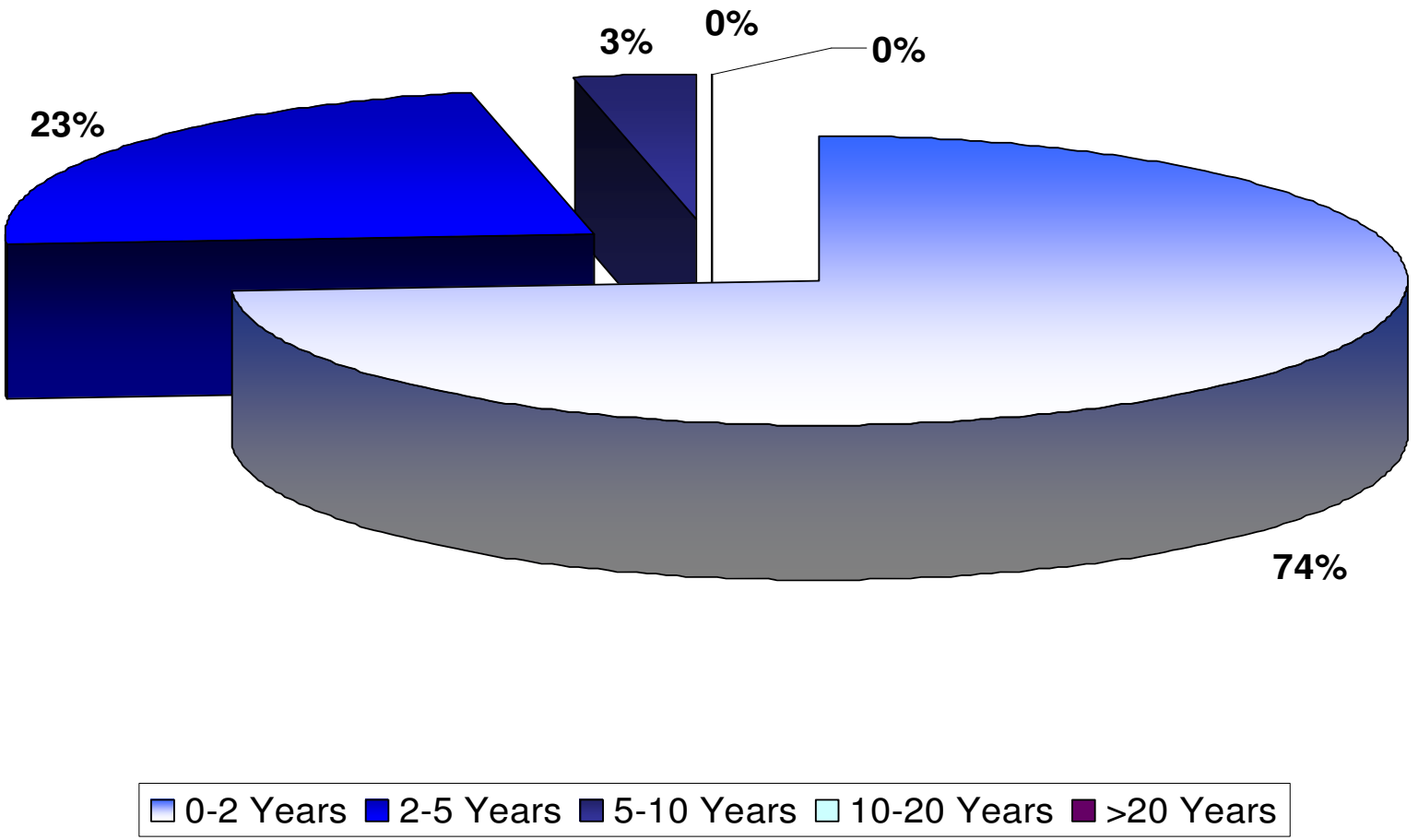
EMPLOYED MEMBERS - YEARS OF ENGINEERING EXPERIENCE



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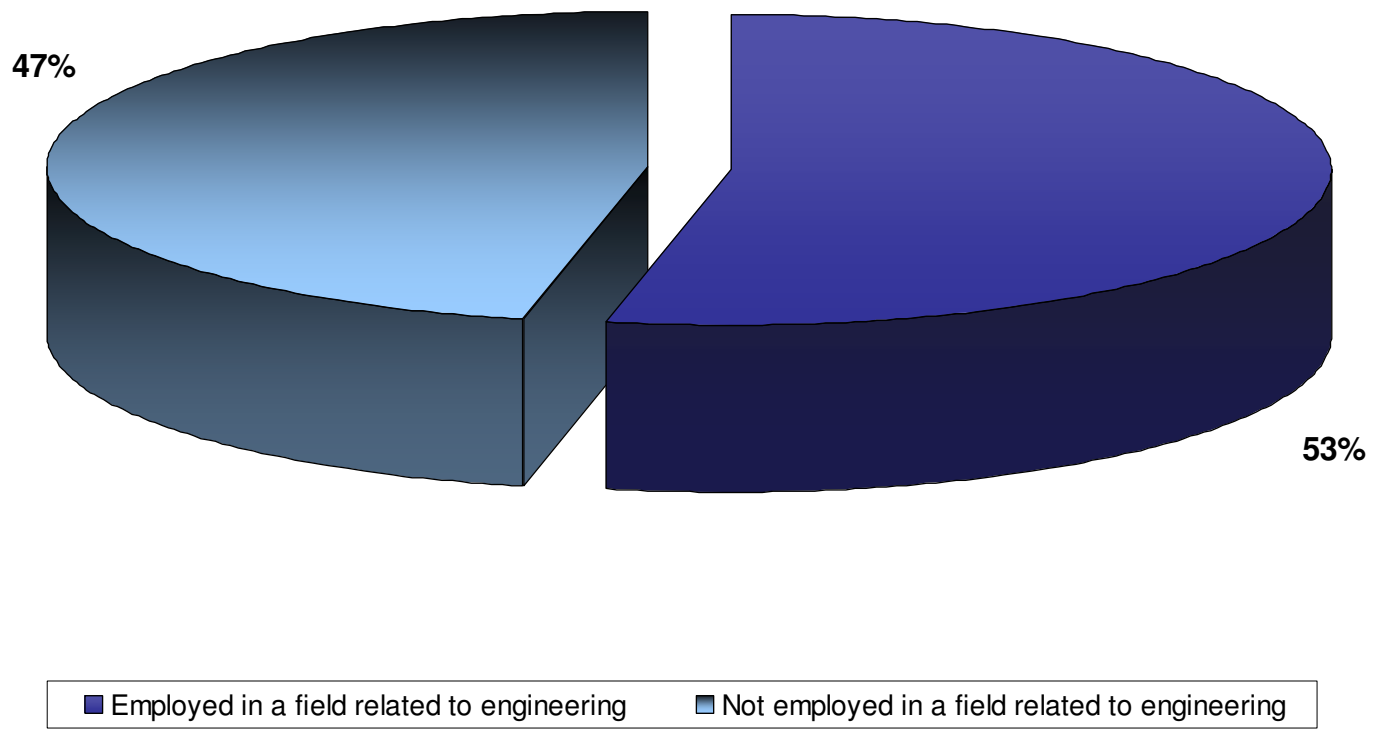
EMPLOYED MEMBERS TYPE OF EMPLOYMENT



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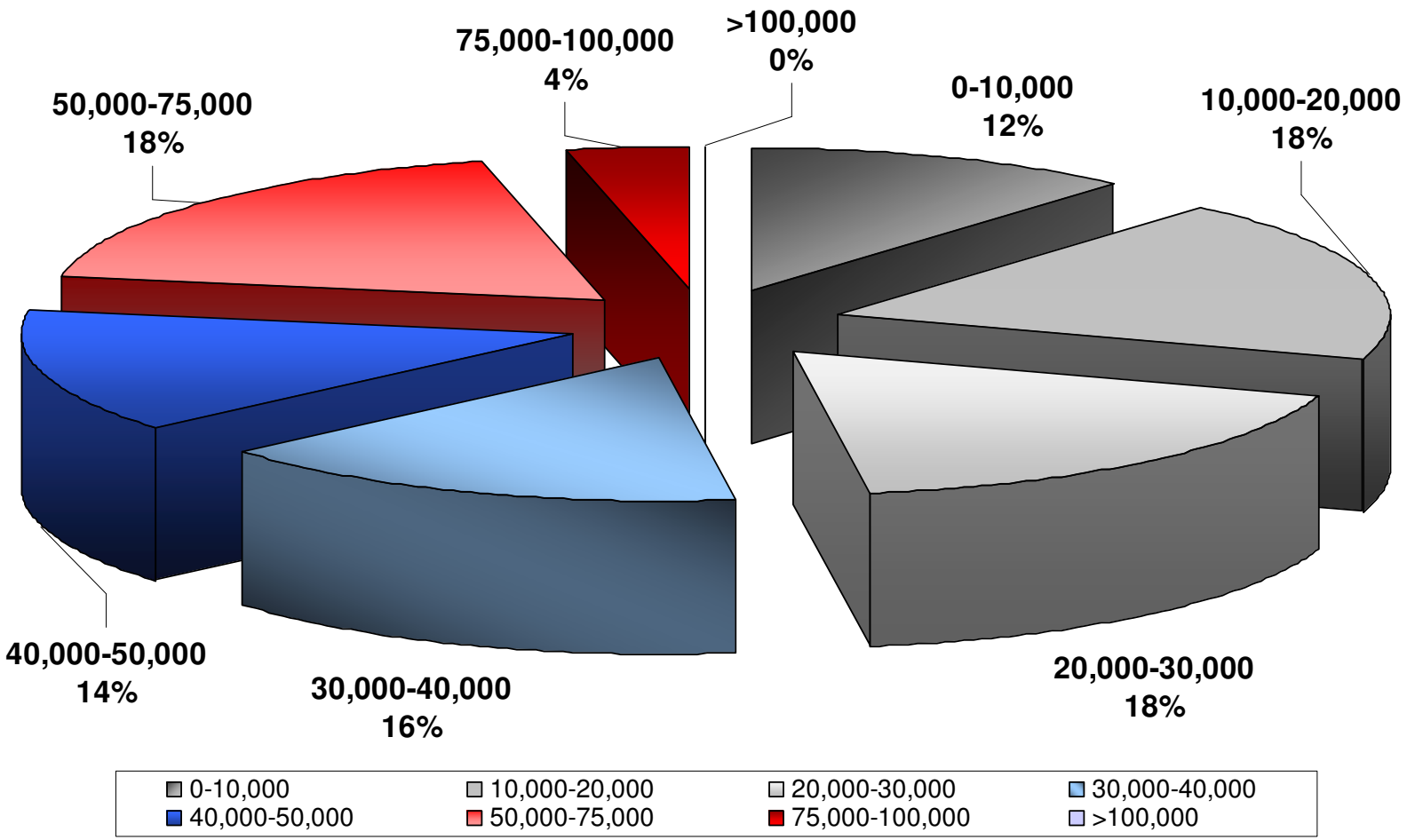
EMPLOYED MEMBERS – INCOME DATA



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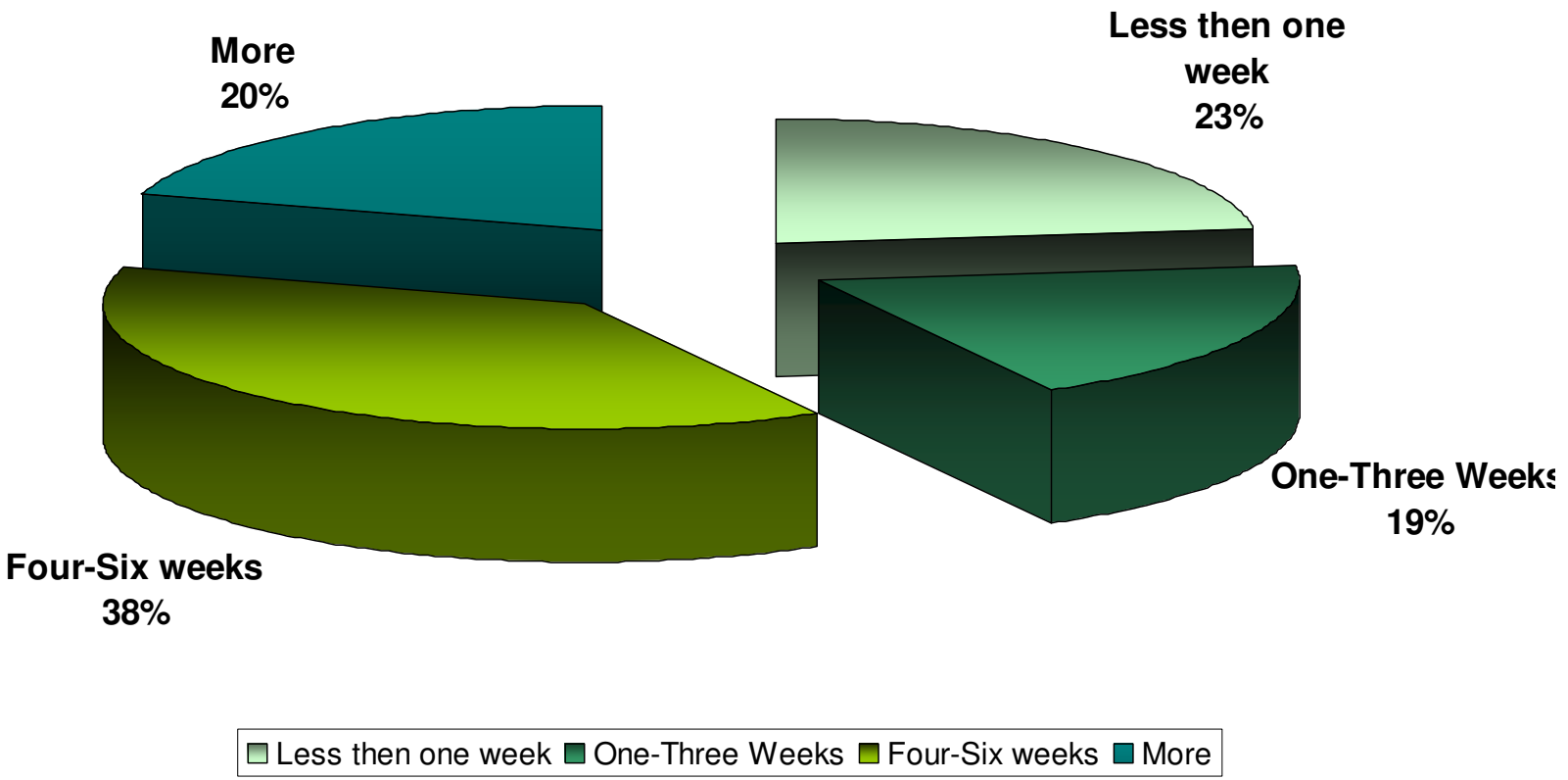
Employment Support Survey-
Length of program



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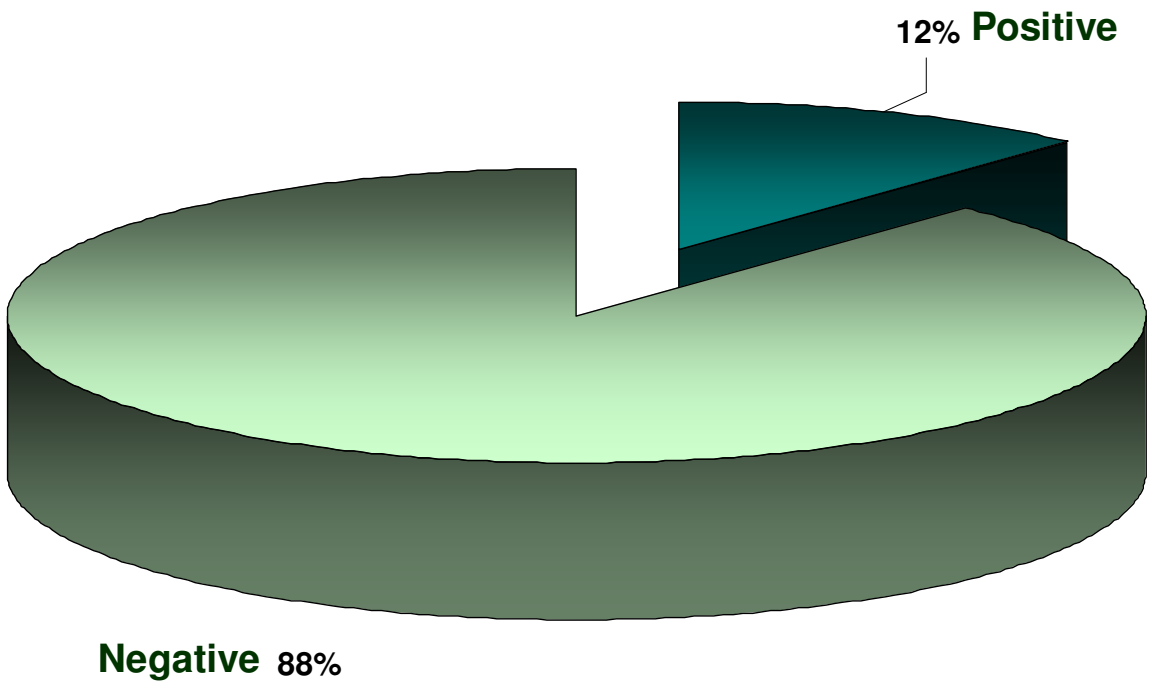
Employment Support Survey-
Outcome



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