Singapore Plumbing Society
Total Population: 5.64 Million
Population Density: 7,796 / km² (721.5 km²)
Median Age: 41.7 Years
Life Expectancy at Birth: 83.1 Years
Gross Monthly Income: $4,232

Multi-Racial Society:
- Malays: 360,528 (17%)
- Chinese: 535,824 (25%)
- Indians: 128,650 (6%)
- Other Ethnic Groups: 2,969,281 (74%)

Source: [https://www.population.sg/population-trends/demographics](https://www.population.sg/population-trends/demographics)
Singapore tops global ranking for order and security (EIU)

Henley Index: Japan and Singapore top 2019 list of world’s most powerful passports ... 189 countries

Singapore ranked among bottom 10 countries for efforts to reduce inequality: Oxfam report

The highest paid public servant

Singapore No. 1 out of 157 countries in World Bank Human Capital Index

“World’s Best Airport” for the seventh year running (SKYTRAX)

IMD World Competitiveness Ranking 2019

Read more
“Licensing and learning: The Singapore experience”

Presented By: Wee Teck, TAN
President of Singapore Plumbing Society
An Overview of the Plumber’s Licensing Framework in Singapore
- Main Legislations
- Collaboration Framework
- Continual Professional Development for LPs
- Enforcement

Why Single Licensing for Plumbing Works?

The Plumber’s Licensing Journey - Past & Present

What Qualifications are Needed to be a LP?

What are the Learning Pathways to Becoming a LP?

Value Proposition for Sustainable & Consistent High-Quality Plumbing Service
Wee Teck, TAN  *PUB Licensed Plumber*

*President of Singapore Plumbing Society*

*Member of PUB Water Network 7th Panel*

*Senior Member of Institution of Engineers Singapore (IES)*

*Adjudicator for Security of Payment Act (Construction Payment Disputes)*
A non-profit society founded in 1956

To uphold plumbing & sanitary standards for public health and to advance the interests of plumbers in Singapore through partnerships and continual professional development
How many of the same kind?

*LPs in Singapore - 881

![Pie chart showing age distribution of LPs in Singapore.](chart1.png)

- 78% of LPs in SPS are above the age of 50
- 6% of the LPs in SPS are below the age of 40

*LPs in SPS - 201

![Pie chart showing age distribution of LPs in SPS.](chart2.png)

- 69% of LPs in SPS are above the age of 50
- 12% of the LPs in SPS are below the age of 40

*Data from PUB as of 1st Sep 2019
Total no. of Members - 267

- LPs Members - 201
  - 52% (72) 20-29
  - 19% (39) 30-39
  - 9% (18) 40-49
  - 14% (26) 50-59
  - 7% (14) 60-69
  - 6% (11) 70 & above

- Associate Members (AM) - 66
  - 39% (26) 20-29
  - 15% (11) 30-39
  - 39% (15) 40-49
  - 15% (10) 50-59
  - 20% (11) 60-69
  - 1% (1) 70 & above

:- 69% of LPs in SPS are above the age of 50
:- 12% of the LPs in SPS are below the age of 40
:- 40% AM in SPS are above the age of 50
:- 22% AM in SPS are below the age of 40
LPs Qualification in SPS

Legend:
- Adv BC - Advanced Builder Certificate
- BCPP - Builder Certificate in Plumbing & Pipefitting
1. Main Legislations
   - Public Utilities Act
   - Public Utilities (Water Supply) Regulations
   - SS 636:2018 - Code of Practice for Water Services
   - Code of Practice on Sewerage and Sanitary Work (2nd Ed., 2019)

[Similar to the WPC’s Protection Pillar?]
2. Collaboration Framework

Formulation of standards & COP are done in consultation with local professional bodies through working committees and focus groups:

- Singapore Plumbing Society (SPS)
- Institute of Engineers Singapore (IES)
- Association of Consulting Engineers Singapore (ACES)
- Singapore Institute of Architects (SIA)
- Statutory Boards – Housing Development Board (HDB), Jurong Town Corporation (JTC), etc.

[Similar to the WPC’s Participation Pillar?]
3. Continual Professional Development for LPs

- LP license is for LIFE ... BUT mandatory to attend a 4-hour refresher course once every 3 years
- SPS conducts specialised technical training - high / low pressure test, washing of water tanks, leak detection, pumping system etc.
- Through Lifelong Learning Framework - Singapore’s national movement on SkillsFuture

“Skillsfuture is a national movement to provide Singaporeans with the opportunities to develop their fullest potential throughout life, regardless of their starting points.”

[Similar to the WPC’s Practices Pillar?]
4. Enforcement

- Public Utilities Board (PUB), the National Water Agency is the Enforcement Agency
- The Plumbers’ Workmanship Improvement Scheme (PWIS)
- Penalty Point System - Warning, Suspension and De-Registration (Revoke)
- Prosecution Through Court Proceedings

[Similar to the WPC’s Protection Pillar?]
"Plumbing is a fundamental part of maintaining the consumer end of water supply and used water collection. Water and sanitary pipes in buildings and homes must be built properly with competent knowledge in both water service and sanitary plumbing to maintain public health standards. This is why we are expanding the licensing framework to include sanitary plumbers - to better ensure the quality of works carried out by them and to better protect consumer interests."

(TAN Yok Gin, Deputy Chief Executive (Operations), PUB)

### The Plumber’s Licensing Journey - Past & Present

<table>
<thead>
<tr>
<th>Timeline</th>
<th>Water Service Plumbing Works</th>
<th>Sanitary Plumbing Works</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before 1st Apr 2018</strong></td>
<td>Work can only be carried out by PUB Licensed Water Service Plumbers (LWSPs).</td>
<td>A license is not required(^1). Any contractor or plumber can carry out the work.</td>
</tr>
</tbody>
</table>
| **From 1st Apr to 30th Sep 2018 (transition period to Single Licensed Plumber Scheme)** | - PUB\(^2\) Licensed Plumbers\(^3\) (LPs)  
  - PUB Licensed Water Service Plumbers (LWSPs) | Work can only be carried out by:  
  - PUB Licensed Plumbers (LPs)  
  - Singapore Plumbing Society (SPS) Registered Sanitary Plumbers |
| **From 1st Oct 2018**     | - All plumbing works can only be carried out by Licensed Plumbers (LPs)  
  - Plumbers without license can only work under the direction of LPs |                                                                                         |

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\(^1\) Prior to 1\(^{st}\) Aug 2002, only a Ministry of Environment registered sanitary plumber was allowed to carry out sanitary plumbing works. However, Ministry of Environment deregulated the registration of sanitary plumbers on 1\(^{st}\) Aug 2002. SPS took over the role of the registration of the sanitary plumbers.

\(^2\) PUB stands for Public Utilities Board. The Singapore National Water Agency.

\(^3\) Licensed Plumber under the new Single Licensed Plumber Scheme.
What Qualifications Are Needed to be a LP?

- Builder Certificate / Advanced Builder Certificate in Plumbing & Pipefitting or Trade Diploma in Plumbing Technology issued by BCA\textsuperscript{4} Academy or NITEC\textsuperscript{5} in Facility Technology issued by ITE\textsuperscript{6}; OR
- Diploma or Degree in Civil, Building, Environmental or Mechanical Engineering disciplines with at least a Builder Certificate in Plumbing & Pipefitting (Practical); AND
- At least 2 years of relevant post qualification experience or concurrent experience working under a LP’s supervision

\textsuperscript{4} BCA stands for Building and Construction Authority. A government agency to develop and regulate Singapore’s building and construction industry.
\textsuperscript{5} NITEC stands for National Institute of Technical Education Certificate. A trade skill certificate issued by ITE.
\textsuperscript{6} ITE stands for Institute of Technical Education. A government technical college that provides technical training to support the Singapore economy.
What are the Learning Pathways to Becoming a LP?

**Technical Route**
- Secondary Education (4-5 Years)
  - (General Certificate of Education, GCE) Age: 16-18
- BCA Academy
  - (Certificate / Diploma / Degree)
  - (Private)
- *Builder Certificate In Plumbing & Pipefitting (BCPP)
  - (PRACTICAL MODULE ONLY)
- Government Polytechnics
  - Diploma in Mechanical Engineering / Facility Management (MOE School)
  - Pre-University / Junior College Education (2-3 Years)
    - (MOE School)
- Institute of Technical Education (ITE)
  - NITEC in Facility Technology / Higher NITEC in Facility Management
    - (MOE School)
  - *Builder Certificate In Plumbing & Pipefitting (BCPP)
    - (PRACTICAL MODULE ONLY)
- *NOTE: BCPP Parttime - 396 hour

**Academic Route**
- University
  - Engineering Degree
  - Pre-University / Junior College Education (2-3 Years)
    - (MOE School)
  - *Builder Certificate In Plumbing & Pipefitting (BCPP)
    - (PRACTICAL MODULE ONLY)
  - Government Polytechnics
    - Diploma in Mechanical Engineering / Facility Management (MOE School)
  - Institute of Technical Education (ITE)
    - NITEC in Facility Technology / Higher NITEC in Facility Management (MOE School)
  - Professional Engineer
    - Govern by the Singapore PE Board
  - University
    - Engineering Degree
    - Pre-University / Junior College Education (2-3 Years)
      - (MOE School)
    - *Builder Certificate In Plumbing & Pipefitting (BCPP)
      - (PRACTICAL MODULE ONLY)
Continual Professional Development (CPD) through regular mandatory training. Eg. To accumulate minimum CPD points per year for license renewal vs the current 3 yearly refresher course.

To reinvent the penalty point system (PWIS) to include reward system in order to shape LP’s behaviour (human behaviour).

Regular dialogue and sharing sessions with other professional bodies, statutory boards and public interest groups to bridge the expectation vs quality gap.
... for the opportunity to share and learn