

# Case Study: Opportunity Assessment of Polymeric Alternatives to Copper Tubes in HVAC Applications in North America

## Client Detail:

- Headquartered in Switzerland, the client is a leading manufacturer and distributor of clamps, rings for attaching hoses ,pipes, connectors as well as related assembly tools
- The client has production bases across Switzerland, Germany, Spain, the US, Canada, China, India, Sweden and Lithuania

## Business Situation:

- The client was looking to assess the market opportunity for its clamps business in the North American HVAC market
- The client wanted to understand if there is any industry-wide shift from copper tube and fittings to polymeric tubes and fittings used in the HVAC systems for commercial buildings in North America
- They also sought estimation of the existing & forecasted market size of copper tubes and fittings used in the commercial HVAC industry

## Assignment:

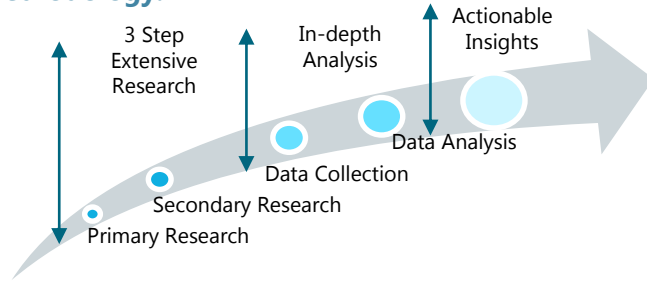
- The client engaged Datamatics to assess the opportunity provided by polymeric alternatives to copper tubes in HVAC applications (with a focus on AC applications) for commercial buildings within the North American market along with understanding the market size of fittings for copper tubes

## Datamatics Solution:

- Datamatics leveraged its research experience coupled with an exhaustive analysis to provide desired insights to help the Client devise long & short term strategies
- Accordingly, Datamatics team segregated the study into 4 broad phases:
  - **Phase I : An Overview of Copper Tubes & Fittings** – This included a quick snapshot of the segmentation of copper tubes & fittings, along with their applications and advantages in HVAC, especially AC applications
  - **Phase II: Copper Tubes & Fittings Market** – Included a detailed analysis of the global and North American copper tubes & fittings market covering segmentation by end-use as well as key trends, drivers, challenges etc.
  - **Phase III: Technological Assessment** – Analysis of the global technology landscape covering patents related to the substitution of copper tube and fittings with polymeric materials in HVAC applications
  - **Phase IV: Polymeric Alternatives to Copper Tubes & Fittings** – Detailed assessment of the need for and status of substitution of copper by polymer as a material for tubes and fittings in building HVAC systems

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## Methodology:



## Approach:

- In-depth secondary research from various sources including industry publications, business journals, commercial databases as well as industry forums, to gather insights on the industry structure, overall market size, market trends, drivers and restraints
- Analysis of patents filed was conducted through extensive screening of relevant patents on patent databases
- Identification of the major players, creation of discussion guides to conduct telephonic interviews with different respondents to validate outcome of secondary research and gather missing information

## Study Outcome:

- The study provided a clear understanding on the significance of copper in HVAC systems for commercial buildings
- The study helped identify the significant challenges of using polymeric tubes in commercial HVACs and thereby the inability to substitute copper

## Project Plan:

- Datamatics identified the key players across the value chain and devised a sample size to adequately capture feedback

Value Chain Stakeholder	No. of Interviews
HVAC Manufacturers and Contractors	12
Tube and Fitting Manufacturers	11
Automotive Hose Manufacturers	7
Consultants & Industry Experts	8
<b>Total</b>	<b>38</b>

## Analysis:

- The global copper tube & fittings market is forecasted to rise at 2.1% CAGR to reach USD 38.4 billion by 2020, driven by the construction industry and rising copper prices
- The share of HVAC applications of copper tube & fittings in North America is around 30-35%, much lower than the global share of 56%; plumbing applications dominate this market
- Although polymer tubes are used in automotive ACs since the 1980s, they have not found application in building HVACs