



Science Technology
Engineering Mathematics

**A systemic change to close the gender gap in
STEM/TVET**

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<https://www.stemcoalition.eu/>

Bringing together academia, educators and society



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A systemic and cultural Shift ...too complicated?

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Much researched, time for action



Girls & women in STEM¹: what to know and what to do next

Analysis of existing research and publications 2002–2024





A systemic, ecosystem-based perspective

Our lens today

- Individual
- Social
- Institutional
- System

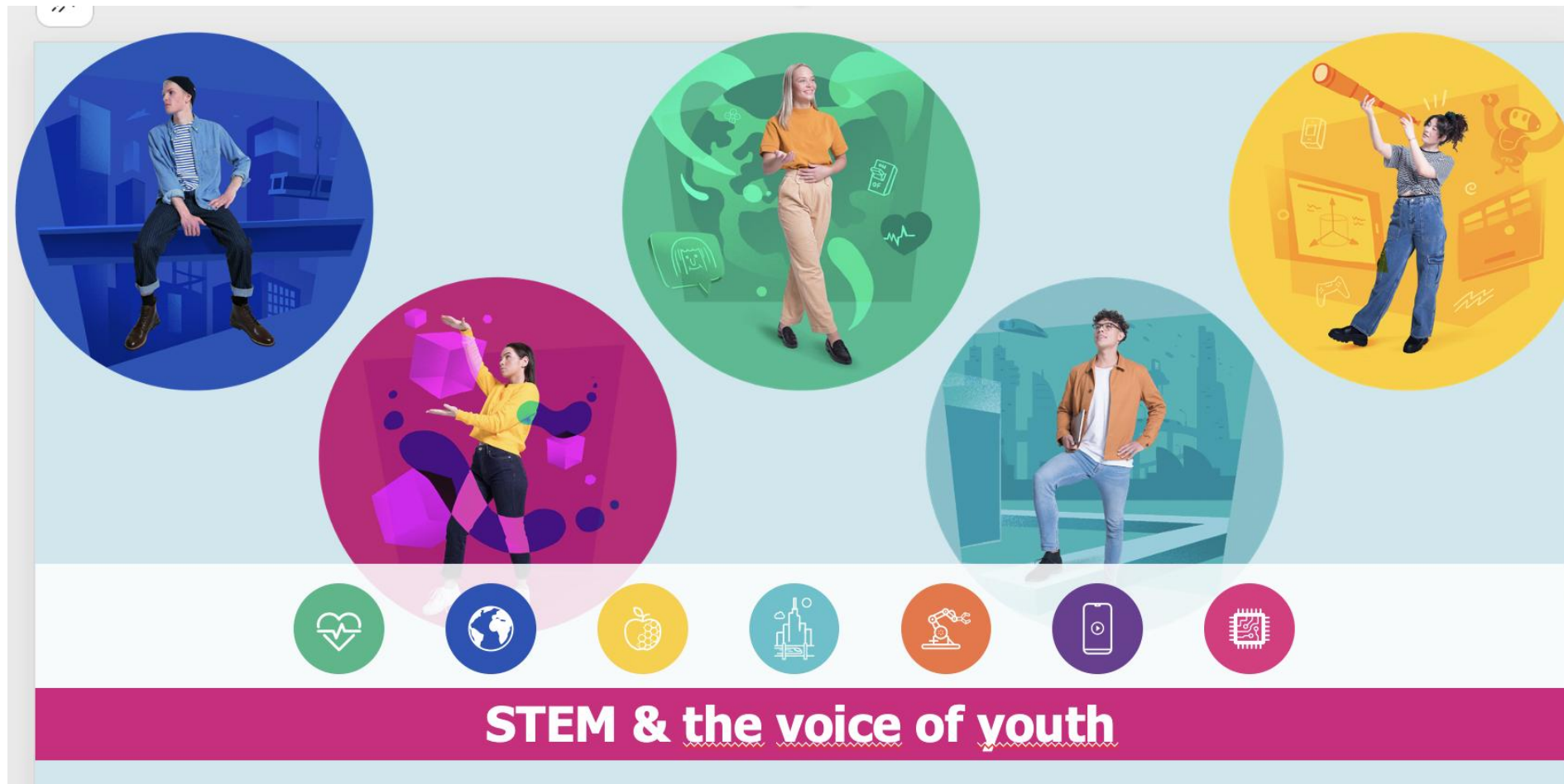


1. Individual Level — Identity & Motivation

- Confidence gap, not a skills gap
 - Girls perform as well as boys, but feel less ‘welcome’
- Motivation is diverse
 - Impact-driven, creative, curious, hands-on, uncertain
- Meaningful STEM connects to values
 - Relevance boosts entry & persistence



A STEM Mentality Model (Netherlands) - 5 profiles of motivation for STEM



The Swedish Model with 6 groups

Sex målgrupper med STEM-potential:



GRUPP 1:

Generalisterna

Studieorienterade ungdomar som vill maximera sina utbildningsmöjligheter och hålla dörrarna öppna.



GRUPP 2:

Techarna

Teknikfantaster och gamers som ofta låter intresset styra i utbildningsvalen och hela vägen in i arbetslivet.



GRUPP 3:

Kreatörerna

Kreativa och skapande ungdomar som drivs av passion snarare än karriärambitioner.



GRUPP 4:

Fixarna

Praktiskt lagda unga som föredrar konkreta utmaningar och har sikten inställt på jobb.



GRUPP 5:

Specialisterna

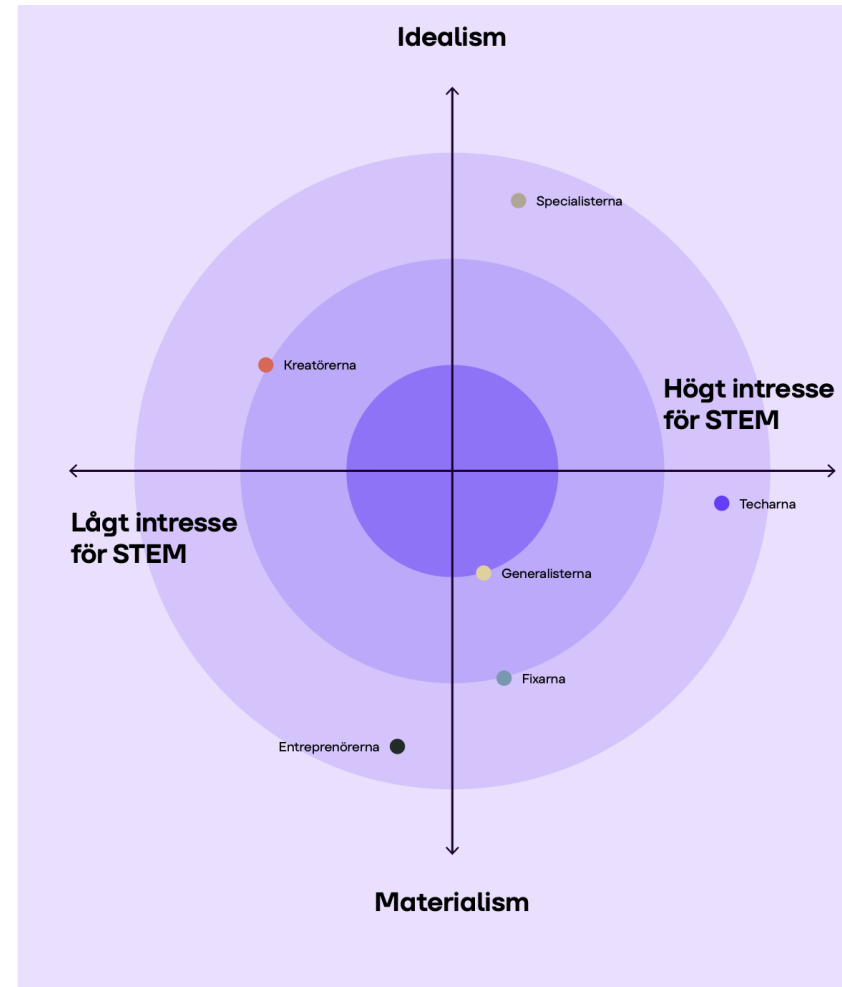
Högpresterande och intressedrivna unga som drömmer om att göra skillnad.



GRUPP 6:

Entreprenörerna

Statusorienterade unga som vill nå framgång och hög lön på smartast möjliga sätt.



2. Social Level — Families, Peers & Role Models

- Role models reshape belonging
 - Female professionals increase STEM interest up to 75%
- Families & peers steer aspirations
 - Encouragement matters as much as ability
- Visibility changes norms
 - Representation normalizes STEM/TVET for girls

3. Institutional Level — Schools, TVET & Workplaces

- Teacher expectations influence pathways
 - Bias reduces girls' participation by 15–20%
- STEM/TVET often male-coded
 - Competition, speed, jargon create barriers
- Multiple entry points needed
 - Inquiry, creativity, teamwork, practice, real-world impact



4. System Level — Policy & Ecosystems

- Projects alone won't close gaps
 - Short-term initiatives don't shift culture
- We need aligned ecosystems
 - Policy, funding, training, industry, families, media
- Strategies must be long-term
 - Beyond election cycles and project windows



Conclusion — A Systemic Shift

- Ecosystem approach is essential
 - Schools cannot do this alone
- Gender equity = personal, economic & social resilience
 - Central to sustainable development
- Our networks drive transformation
 - Tools, long-term strategies, collaboration



- Inclusive outcomes can only genuinely be achieved with inclusive processes
Engage, Co-Create, Listen, Check, Re-Design not only for but with
 - Young people: Girls and boys and from diverse backgrounds culturally and economically
 - Businesses and civil society
 - Get your local, regional and national governments to support this approach

Thank You

- Let's build meaningful STEM & TVET ecosystems regionally and globally
- Together we can accelerate the cultural shift

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