



What Montana can Learn from Industry-Education Partnerships in Germany

*Manufacturing and International Trade Day
March 16, 2023*



MONTANA
STATE UNIVERSITY

NORM ASBJORNSON
College of
ENGINEERING



AMERICA
WORKS



MEP
National
Network™

*The Go-To Experts for Advancing
U.S. Manufacturing*



**STRONGER
TOGETHER**

In Partnership with



Federal Ministry
for Economic Affairs
and Climate Action



AMERICAN
COUNCIL ON
GERMANY

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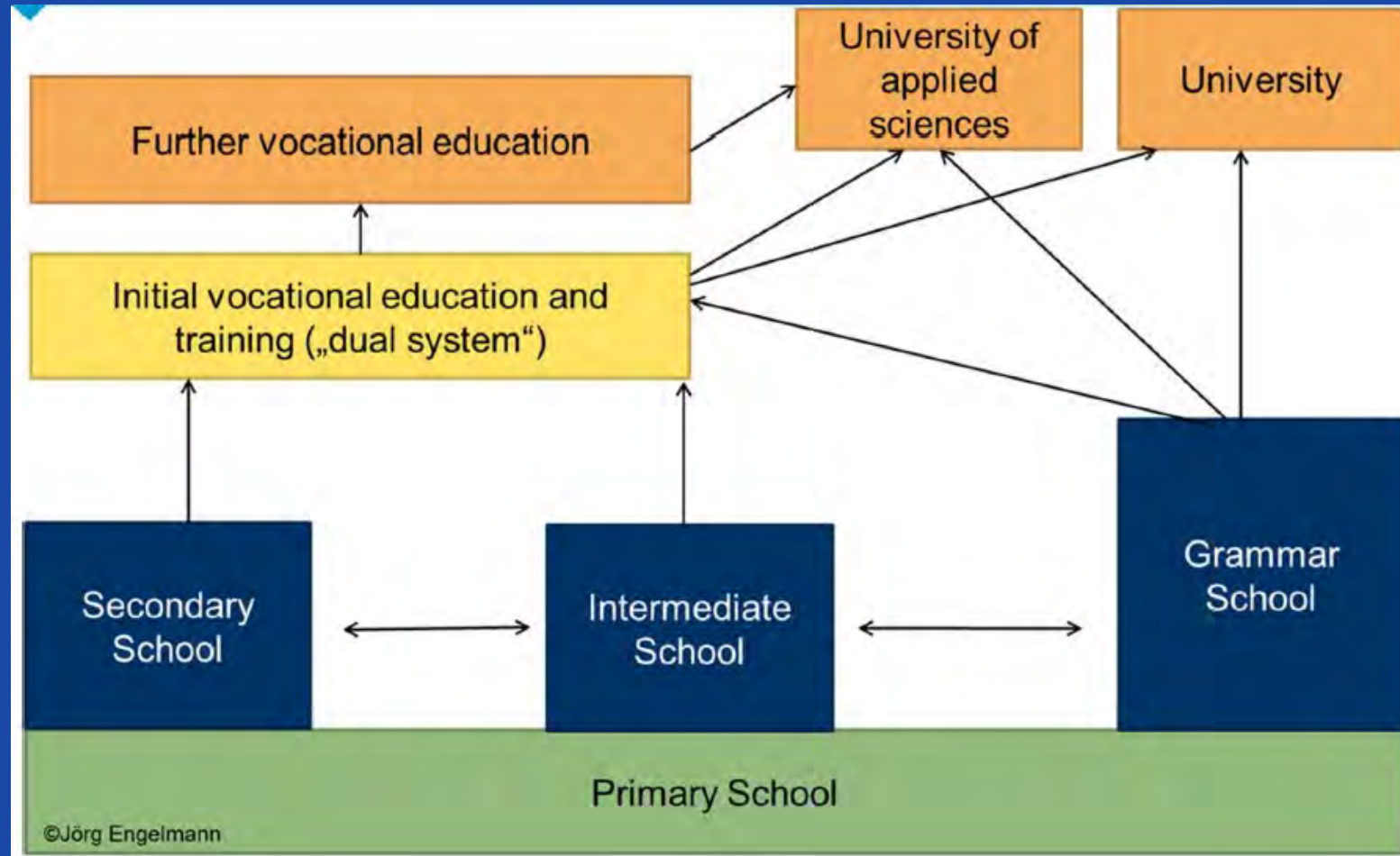
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Basics



Labor market





Basics

Main Principles

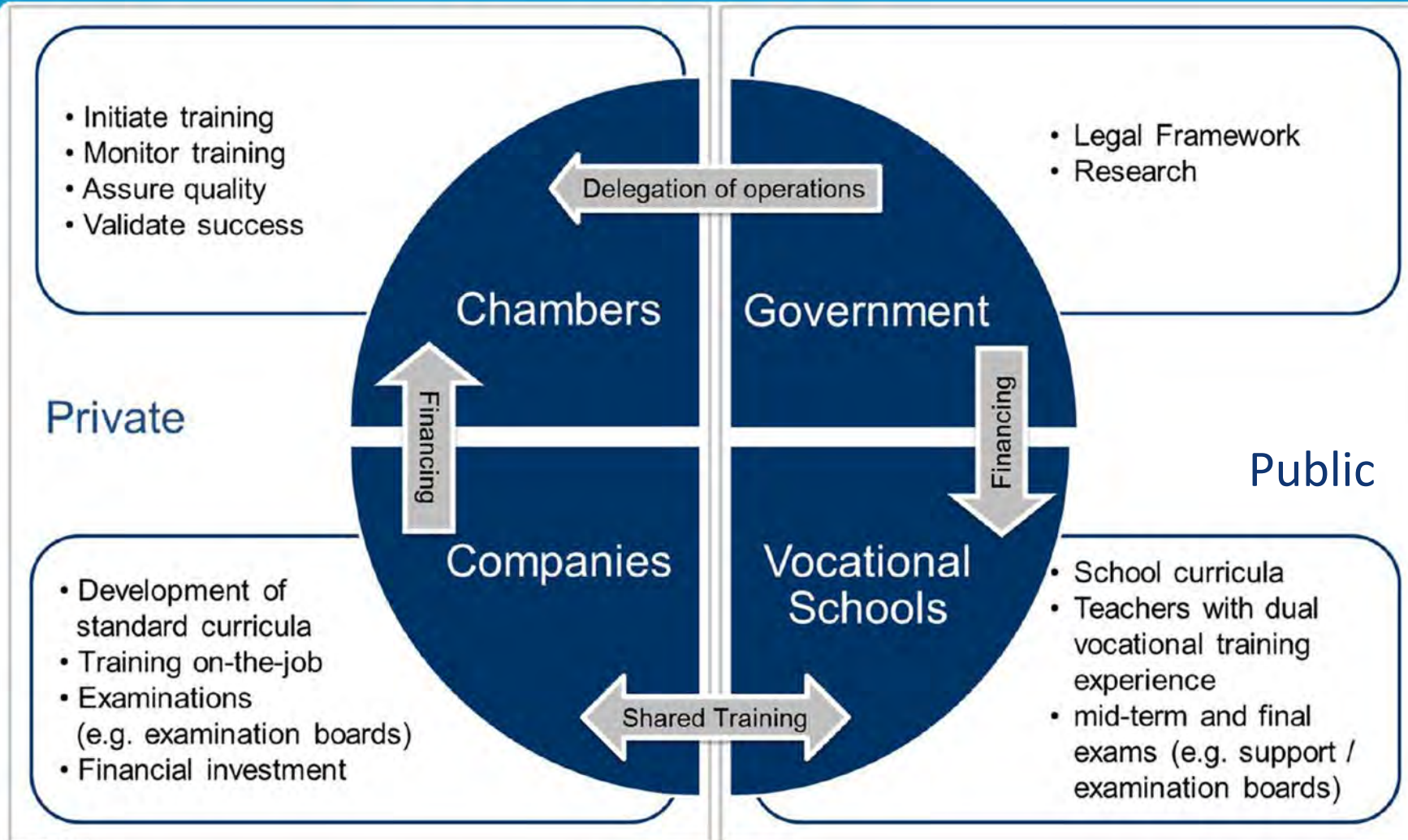
Training on the job

- Contractual obligation: Training contract
- Training content: Vocational training regulations – Regulated at a national level
- Duration: 3 – 4 days/week

Learning in vocational school

- Contractual obligation: Compulsory school attendance
- Training content: Framework curricula in federal states – Nationally co-ordinated
- Duration: 1 – 2 days/week

Allocation of Tasks: Public Private Partnership



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15 February 2023

Jörg Engelmann

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Chamber of Industry and Commerce (IHK)

Chamber of Industry
and Commerce for
Munich and Upper
Bavaria /
IHK München und
Oberbayern

Federal Law Gazette Part I No. 36 from 30 July 2007

Part 3 Stipulations for the training occupation of Electronics technician for industrial engineering

§ 11 Training profile

- (1) The following skills shall constitute the minimum object of the vocational education and training:
- 1 VET, employment and collective wage agreement law,
 - 2 Structure and organisation of the company providing training,
 - 3 Health and safety at work,
 - 4 Environmental protection,
 - 5 Company and technical communication,
 - 6 Planning and organisation of work, evaluation of work results,
 - 7 Assembly and connection of operating equipment,
 - 8 Measuring and analysis of electrical functions and systems,
 - 9 Assessing the safety of electrical plants and equipment,
 - 10 Installing and configuring IT systems,
 - 11 Advising and assisting customers, provision of services,
 - 12 Technical analysis of orders, developing solutions,
 - 13 Installing and putting electrical plants into service,
 - 14 Configuring and programming controls,

§ 12 General training plan

The skills stated in § 10 para. 1 (training profile) are to be imparted in accordance with the instructions contained within Annex 1 and Annex 3 in respect of the content and time structure of the vocational education and training (general training plan). Content and time structure of training content which deviates from that contained within the general training plan is permitted in particular to the extent to which specific company practices necessitate such a deviation.

§ 13 Part 1 of the final examination

- (1) Part 1 of the final examination is to take place before the end of the second year of training.
- (2) Part 1 of the final examination encompasses such skills as are listed for the first year of training in Annex 3 and also includes teaching material to be imparted at vocational school in accordance with the skeleton curriculum insofar as such material is integral to the vocational education and training.
- (3) Candidates are to demonstrate that they are able to
1. evaluate technical documentation, determine technical parameters, plan and coordinate work processes, obtain materials and tools;
 2. assemble, disassemble, wire, connect and configure pieces of equipment according due consideration to safety rules, accident prevention regulations and environmental protection

Berufsbildung (BIBB)

und Rahmenlehrplan

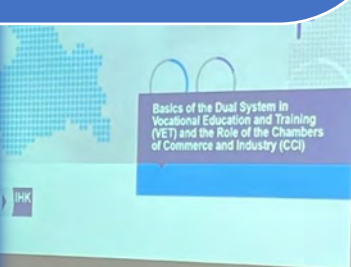
Bildungsberuf

Betriebstechnik

(Englische Übersetzung)

Ordinance on Vocational Education and Training in the Occupation of Electronics technician for industrial engineering

(English Version)



Government

Munich Employment Agency / Agentur für Arbeit München



The tasks of the Federal Employment Agency

Everyone in Germany should have a job.

That's why the Federal Employment Agency exists.

The Federal Employment Agency is important for the labor market in Germany.





Research

Fraunhofer Institute for Casting, Composite, and Process Technology (research)



Vocational Schools

Vocational School for Production Technology / Berufsschule für Fertigungstechnik (BSFT)

Vocational Trainers Association of Bavaria / Berufsausbilder-Verband Bayern e.V. (BAV)

KJF Vocational Training and Youth Welfare Centers / KJF Berufsbildungs- und Jugendhilfezentren (Augsburg)





Companies

“social duty”

Siemens Global Training Center – Munich

Huber-Technik – Erding

BMW Group Headquarters and Training Center – Munich



“secure skilled workers”

“absolutely worth the investment”



“easier than hiring from the labor market”



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Companies

“Girls Day”

BSH Hausgeräte GmbH –
Dillingen an der Donau

SGL Carbon – Meitingen

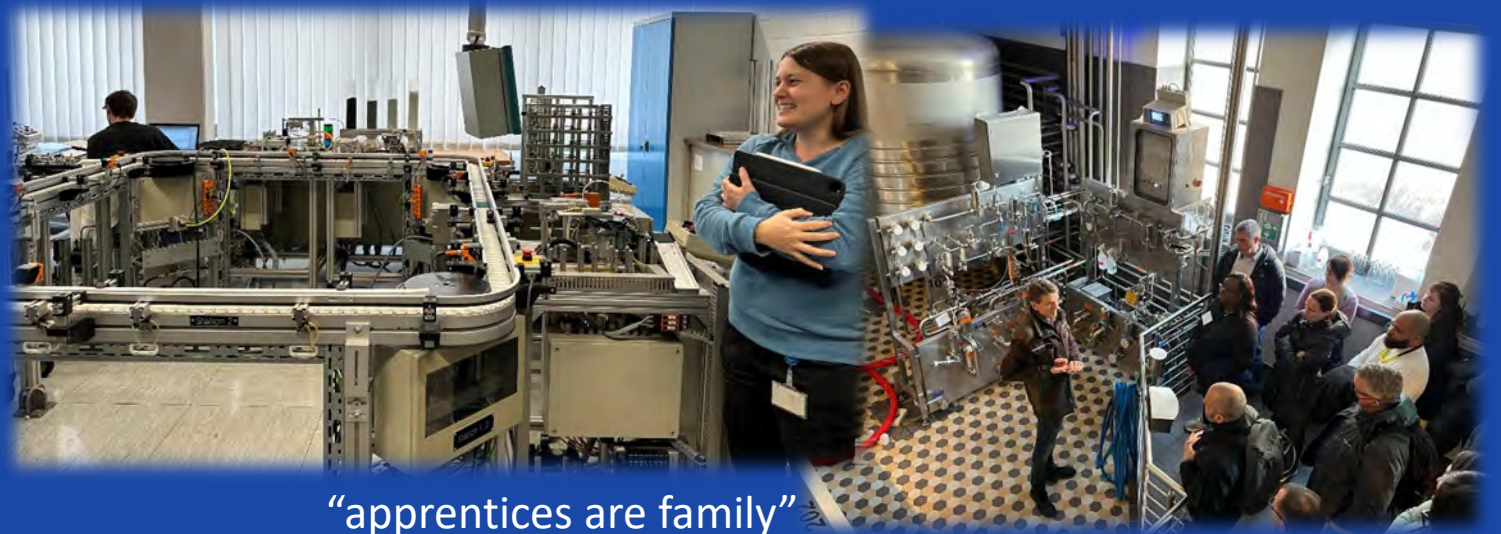
Riegele Wirtshaus -
Augsburg



“many opportunities for
education and advancement”



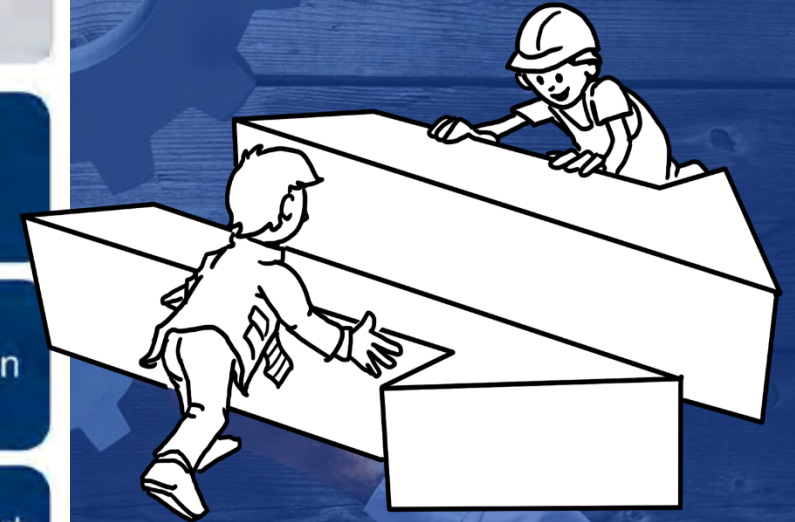
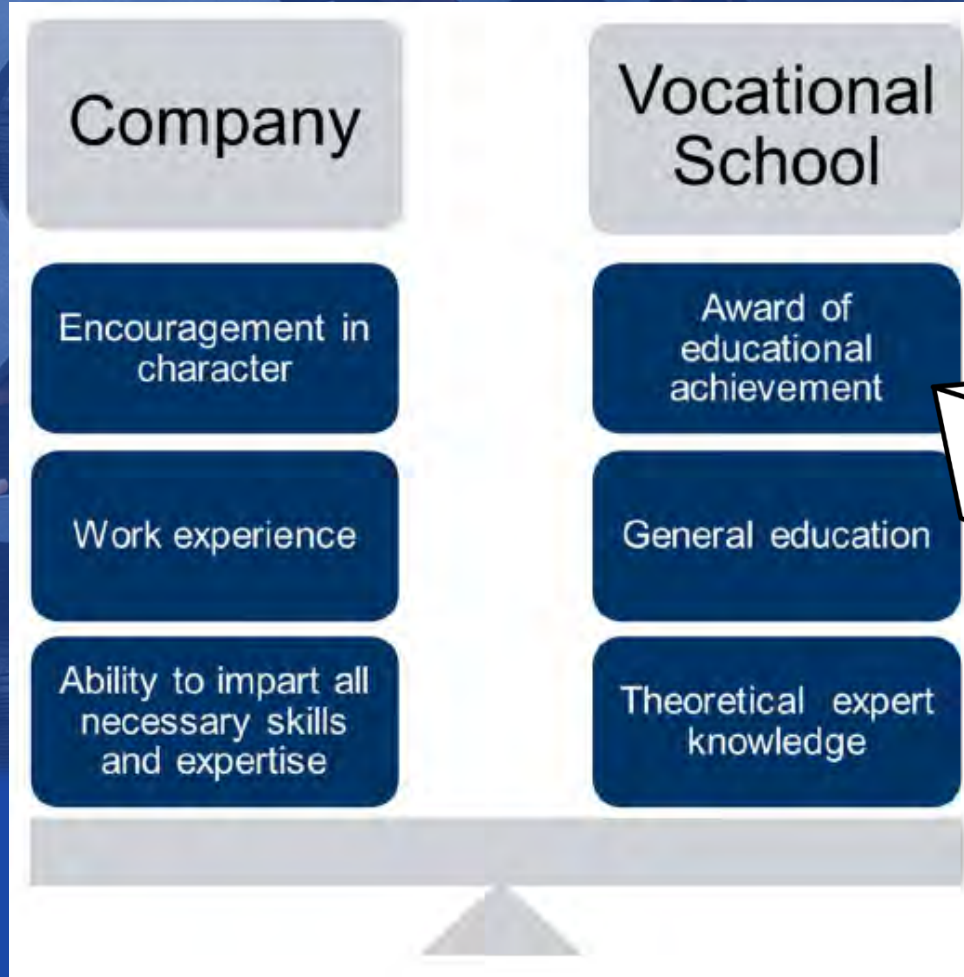
“only by working with your
hands can you really
understand the materials and
how they behave”



“bonding between apprentice and company”

“apprentices are family”

Working together



What can we apply to Montana?

- Build on what we have
- Get kids involved early
- Provide hands-on learning in real world environments (companies and schools must work closely together)
- Invest and commit (“speed is the enemy of success”)
- Make people development a strategy, not an event
- Leverage and develop partnerships
- Create a culture of learning
- Be creative - try different models to see what works



Questions?

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