

Presentation

by Gareth Wilkins

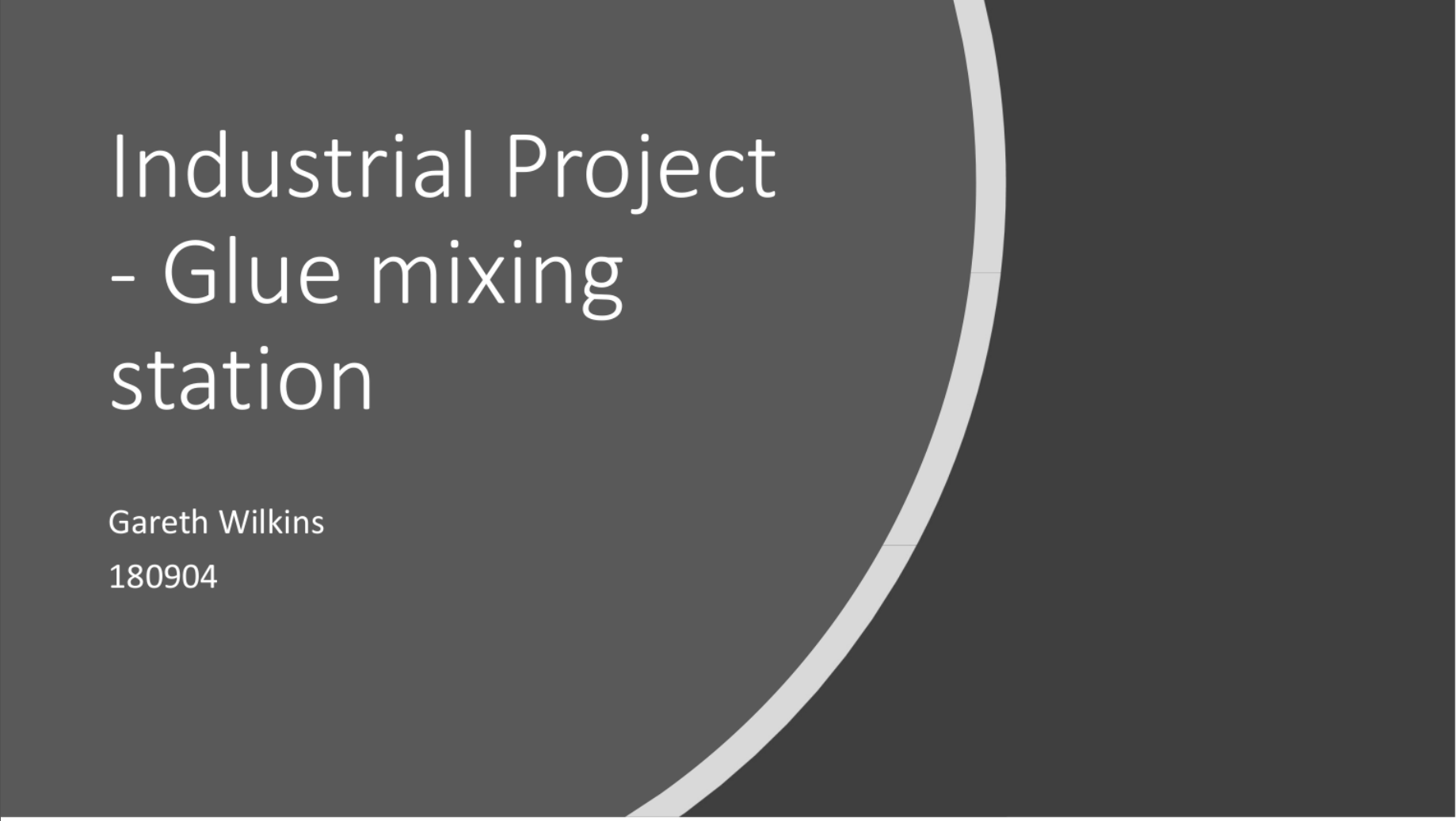
Submission date: 20-Jan-2023 09:05PM (UTC+0000)

Submission ID: 195792781

File name: 13876_Gareth_Wilkins_Presentation_180855_1017673829.pdf (1.8M)

Word count: 319

Character count: 1949



Industrial Project - Glue mixing station

Gareth Wilkins
180904

Project background, problem definition and constraints

- Current method labour intensive
- Health & Safety and Quality concerns
- Conformity to machinery directive and company standards



Function design specification

- Provide a system that fully automates the process for requesting, storing, mixing and supplying glue to the paper machine gluing applications
- Budget £20,000
- Implemented April 2023.

Project risks

- Project Specification and deliverables not clearly established
- Project schedule not outlined or established
- Work priorities
- Cost estimating errors
- Scheduling errors
- Inadequate communication
- Scope Creep
- Project concerns not escalated
- Delays in component delivery

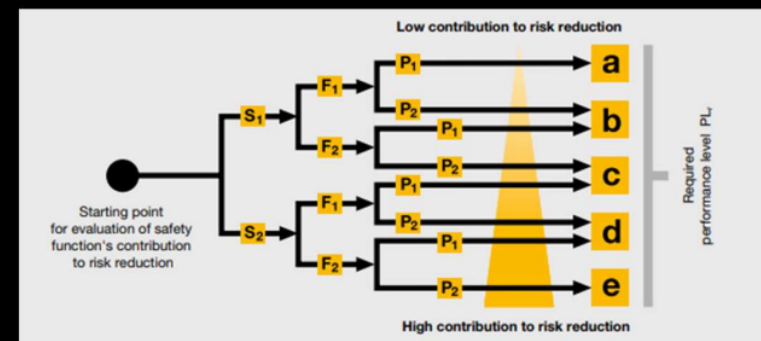
Health and safety

- Slips, trips and falls
- Skin Irritation
- Compressed Air
- Electricity

Severity of injury	S
Slight (normally reversible injury)	S ₁
Serious (normally irreversible injury including death)	S ₂

Frequency and/or duration of exposure to a hazard	F
Seldom to less often and/or exposure time is short	F ₁
Frequent to continuous and/or the exposure time is long	F ₂

Possibility of avoiding the hazard	P
Possible under specific conditions	P ₁
Scarcely possible	P ₂



Test planning

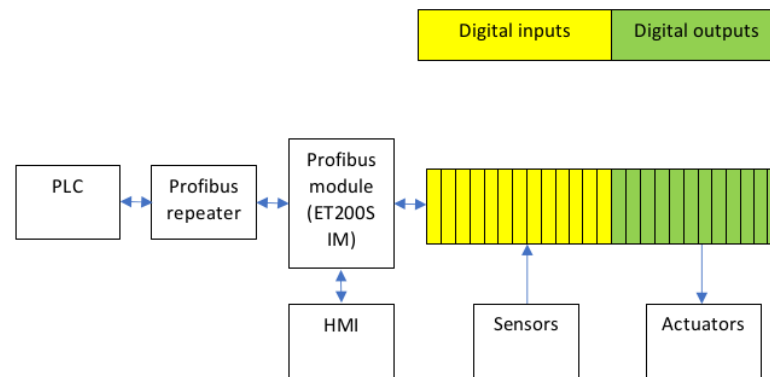
- 10 conformity tests

Reference	FDS Reference	Description of test	Expected result	Actual result	Pass /fail
CT3	1.7	Flow sensors manufacturer	All flow sensors are manufactured by IFM.		

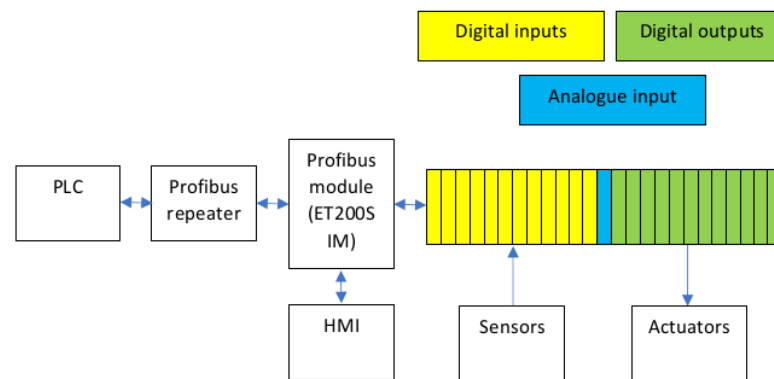
- 8 functionality tests

Reference	FDS Reference	Description of test	Expected result	Actual result	Pass /fail
FT8	1.6.1	Machine beacon indicator	In automatic mode glue is requested from the glue room the blue beacon indicator will illuminate. Once the request is complete the indicator will switch off.		

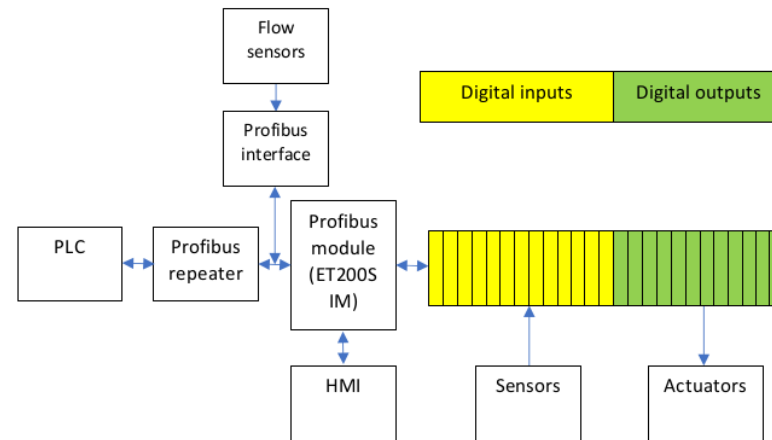
Solution 1 – Digital input module



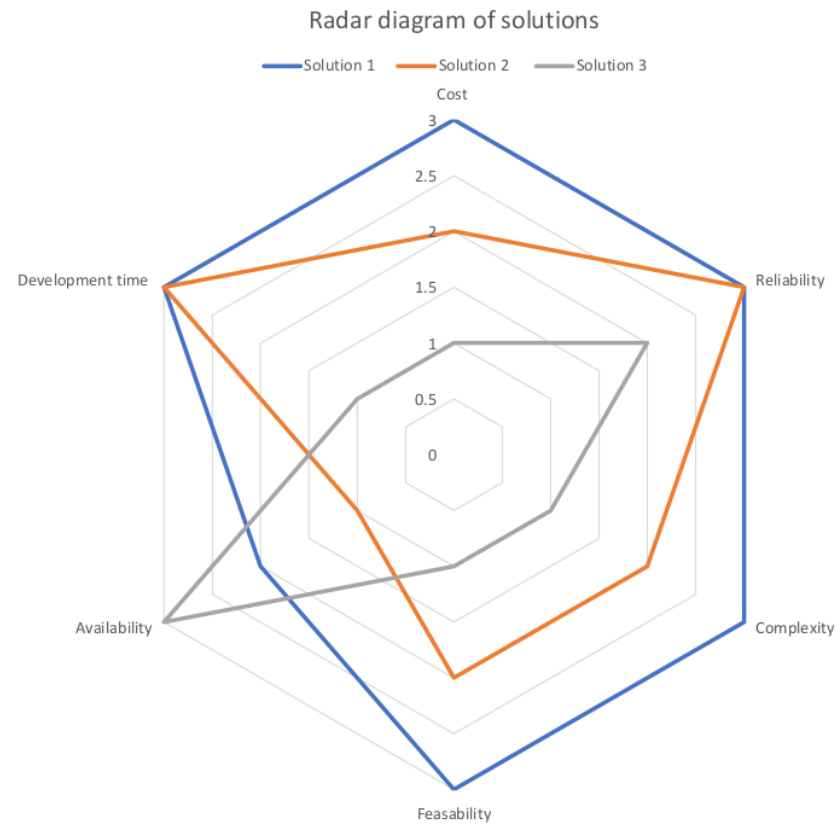
Solution 2 – Analogue input module



Solution 3 – Profibus interface module



Chosen
solution



Project planning

Project start date : 13/01/2022																				
ID	Task	Assigned person	Duration	Start	Finish	13/01/2022	20/01/2022	27/01/2022	03/02/2022	10/02/2022	17/02/2022	24/02/2022	03/03/2022	10/03/2022	17/03/2022	24/03/2022	31/03/2022	07/04/2022	14/04/2022	21/04/2022
1	Design																			
1.1	Produce electrical schematic drawings	GW	14 days	13/01/2022	27/01/2022															
1.2	Produce offline software modification	GW + DH	7 days	27/02/2022	03/02/2022			1												
2	Procurement																			
2.1	Source components	GW	7 days	03/02/2022	10/02/2022															
2.2	Delivery of electrical components	GW	14 days	10/02/2022	24/02/2022						2									
3	Hardware implementation																			
3.1	Assemble electrical control panel	GW	7 days	24/02/2022	03/03/2022							3								
3	Installation																			
3.1	Electrical and instrumentation connection	GW	14 days	03/03/2022	17/03/2022															
3.2	Online software modification	GW + DH	7 days	17/03/2022	24/03/2022										4					
4	Testing																			
4.1	Commissioning	GW	7 days	24/03/2022	31/03/2022															
4.2	Factory acceptance	GW	7 days	31/03/2022	07/04/2022															
5	Handover																			
5.1	Produce operator instructions	GW	7 days	07/03/2022	14/04/2022															
5.1	Operator Training	GW	7 days	14/04/2022	21/04/2022														6	

Milestones

- 1) Electrical and software design
- 2) Source and obtain components
- 3) Hardware assembly
- 4) Machine installation
- 5) Testing and commissioning
- 6) Handover

Progress to date

- Planning phase complete
- Budget approved
- 108 work hours accumulated



Thank you for listening,
any questions



Presentation

GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

Instructor

50/100

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GRADING FORM: NEW CSG-RUBRIC

GARETH WILKINS

50

1. ENGAGEMENT WITH LITERATURE



2. KNOWLEDGE AND UNDERSTANDING



Project background and problem definition (5/10) Project constraints, risks, health and safety (5/10) Response to questions (4/10) Total = 14/30

14

3. COGNITIVE AND INTELLECTUAL

 Functional Design Specification (4/10) Test planning (4/10) Project Planning and management methods (5/10) Total = 14/30 **14**

4. PRACTICAL APPLICATION

 Review of Solutions (5/10) Justification of final solution (6/10) Total = 11/20 **11**

5. TRANSFERABLE SKILLS

 Quality of the presentation slides (6/10) Quality of the delivery style (5/10) Total = 11/20 **11**