WMG
THE UNIVERSITY OF WARWICK

CASHCOW

PORTFOLIO
PRESENTATION

PRESENTATION OVERVIEW

01

BACKGROUND

Overview of the Multi-Project Management Exercise (MPME) and its objectives. Why managing multiple projects effectively is critical in real-world scenarios.

02

PORTFOLIO MANAGEMENT APPROACH

How the Portfolio Team coordinated multiple projects. Decision-making, resource allocation, and team communication strategies.

03

PROJECT MANAGEMENT APPROACH

The strategies used by individual Project Managers to execute their tasks. Key challenges faced at the project level and how they were addressed.

04

EVALUATION

Reflection on successes and areas for improvement. Insights gained from the simulation that can be applied to real-world multi-project environments.

OUR TEAM

ORGANISATIONAL STRUCTURE

Balanced Profitability & Flexibility

We strategically selected one high-earning project to maximize revenue while also choosing one project with flexible deadlines to allow room for adjustments. This ensured a mix of financial stability and adaptability in managing resources and timelines.

Optimised Resource Allocation

By selecting projects with different time constraints, we could distribute resources efficiently across the portfolio. This reduced bottlenecks and allowed us to prioritise workload based on urgency and potential risks.

Cross Project Integration

By selecting projects with different time constraints, we could create opportunities for knowledge sharing & collaboration reducing the risk of widespread project failure. This also allowed portfolio team to have better resources planning for other projects

TIMELINE

	P1				
	Albania	Croatia	Finaland	Honduras	**Total**
Designers	4	6	8	6	**24**
Assemblers	0	0	0	0	**0**
Testers	0	0	0	0	**0**
Inspector days					

	P5				
	Albania	Croatia	Finaland	Honduras	**Total**
Designers	2	0	0	0	**2**
Assemblers	1	3	5	1	**10**
Testers	0	3	0	1	**4**
Inspector days					

Project Selection & Strategy

- Chose a high-earning project and a time-flexible project to balance profitability and adaptability.
- Developed a resource allocation plan based on project needs and constraints.
- Communication Approach: From the start, we adopted a democratic decision-making style, ensuring all voices were heard in selecting projects.
- Resource Scheduling heuristics: Most Resources First

Execution & Challenges

- Faced resource bottlenecks and scheduling conflicts across projects.
- Managed unexpected delays and cost variations, adjusting strategy as needed.
- Communication Approach Amended: Encouraged open dialogue within the team, allowing everyone to contribute to problem-solving but ensured

Setting out future objectives and strategies for achieving them

Our focus moving forward is on optimizing resource allocation, strengthening decision-making processes, and applying key learnings to improve efficiency. By continuously refining our approach, we aim to enhance project success and mitigate risks."

Adjustments & Optimization

- Are we on track and how much intervention is needed?
- Reallocated resources dynamically to meet deadlines and minimize penalties.
- Improved communication & decision-making across the teams.

Reflection & Key Learnings

- Analyzed what worked well and what could be improved.
- Identified strategies for better risk management and efficiency in future projects.
- Review the initial plan. What assumptions did we make

PORTFOLIO RISK STRATEGY

- Strategic diversification of risk across projects with varied contract values and durations.
- Balance of high risk and low risk contracts.
- Prioritisation of projects depending on their durations and cost of penalties.
- Based on contract values, individual projects were able to determine their own triple constraint objectives.
- Consistent scheduling across project in the planning phase to allow for 'worst-case scenario'.
- Aimed for top two projects to be risk averse to minimise time overruns.

FINLAND 1 TIME → QUALITY → COST

CROATIA 2 TIME → QUALITY → COST

HONDURAS 3 COST → TIME → QUALITY

ALBANIA 4 COST → QUALITY → TIME

PORTOLIO RISK MATRIX

Project	Risk	As a result of… (CAUSE)	Uncertain event may occur… (RISK)	Which would lead to effect on objective(s) (IMPACT)	Probability (L/M/H)	Mitigation Strategy	Contingency Plan
CASH COW PORTFOLIO	Missed inspection days for lower priority projects.	Only one inspector is available for the overall portfolio within each period.	These inspection days would need to be booked in a later period, potentially leading to time overruns and project delay.	Inspections on the critical and sub-critical paths will be delayed by up to 20 days.	**HIGH**	Try to rearrange inspection days across projects to run sequentially to avoid clashes. Use float to our advantage.	Recruit an additional inspector in the busiest period 5 to minimise the risk of time delays for projects.
	Lower priority projects receive less resources in the initial periods increasing the probability of delay risks on the critical path.	Misallocation of internal resources to each project based on overall portfolio strategy.	Overall projects will be delayed leading to a failure to meet portfolio objectives.	Project delays will result in penalties per extra day reducing the overall portfolio profit.	**MEDIUM**	Clear communication between project teams and portfolio team to identify minimum resources required to complete project on-time.	Maximise resources in the final periods to reduce the durations of finals tasks for lower priority projects.
	Task delay and resource conflict	Fixed resource and potential task overruns	A task may be delayed and not completed within the planned period	Resource conflict in the following period, affecting other projects	**MEDIUM**	Calculate all task durations based on the maximum potential time	Prioritise the most critical project and recruit additional resources for the next period to cover the gap caused.
	Inefficient communication between projects leading to conflicts or reduced engagement.	Poor establishment of communication channels and lack of clear leadership roles.	Conflicts between team members and lack of clear decision-making leading to poor project performance.	Potentially poor project decision-making leading to project failures such as delays and losses.	**LOW**	Establish a clear portfolio organisation structure and assign each member a role to encourage delegation of tasks.	Allow room in the budget at the portfolio level to rectify any poor project decisions or mistakes.

FINLAND RISK MATRIX

Project	Risk No.	As a result of… (CAUSE)	Uncertain event may occur… (RISK)	Which would lead to effect on objective(s) (IMPACT)	Probability (L/M/H)	Impact on T/C/Q/ in days and/or £	Mitigation Strategy	Contingency Plan
Finland	**M311**	Extension of D107's estimated man-days and design job not being completed within planned time frame.	M311 may be delayed resulting in the duration of M311 being pushed into later periods 5/6 and minimising the amount of time left for A720 and T522.	Missed inspection for I016 - this would need to be rebooked one period in advance resulting in reduced time on the critical path for later jobs.	**High**	**Time** - could result in our project finishing 10+ days later. **Cost** - £10,000 per day for overrunning	Subcontract D107 and reassign all internal designers to the sub-critical path.	Account for extra resources that may need to be distributed to assembly and test jobs on the critical path in periods 5-7 to reduce the duration of tasks.
	D108	Extension of D108's estimated man-days and design job not being completed within planned time frame.	M312 will commence later, thus pushing the inspection - I017 later. This is significant as T522 on the critical path is dependent on I017 being completed on time	Delayed inspection and delayed start to T522 on the critical path which could result in the overall project running over schedule.	**Medium**	**Time** - Additional time spent on this design job and an extra £400/day on a designer in the next period as a contingency. **Cost** - £10,000 per day for overrunning	Choose a manufacturer that will complete M312 in the least amount of time and ensure that there is float after M312 to minimise the impact of this job overrunning.	Booking additional designers in the subsequent period to ensure that D108 is completed and does not impact the start of the M312.
	I019	Missed inspection day or failed inspection due to M315 overrunning or low quality. This is a significant risk as this job falls on the sub-critical path.	I019 will be missed or need to be repeated and will need to be rebooked for the next period resulting in up to 20 days lost. This will delay the start of A721.	Delayed start to A721 in the later periods will affect T523 and subsequently A724 on the critical path which could result in the overall project overrunning.	**Medium**	**Time** - Additional time spent on this manufacturing job which could lead to the project overrunning. **Cost** - £1500/day sunk costs for the inspectors booked and additional £1500/day for the next period.	Choose a manufacturer with a reliable history and record of high quality to reduce the risk of failed inspection or the job overrunning.	Book sufficient assemblers and testers in period 6 to reduce the durations of A721 and T523 in period 6 to limit the impact of M315 overrunning and the critical path being extended.
	T530	Test failure due to poor assembly of A729.	Both A729 and T530 would need to be redone in the next period.	Could delay the start of A721 and subsequently delay tasks on the critical path.	**Medium**	**Time** - A whole period is used to repeat the assembly and test jobs. Possible delay impact on A721 being completed on time. **Cost** - Additional £1,100/day in period 5 as a contingency. Potential £10,000/day if jobs on the critical path are delayed.	Assign sufficient assemblers and testers in period 4 to ensure that these jobs are completed within one period. This ensures that if the jobs need to be repeated, float can be used in period 5.	Book at least one additional assembler and tester in period 5 to reduce the delay of A721 starting later.

CROATIA RISK MATRIX

Project	Risk No.	As a result of… (CAUSE)	Uncertain event may occur… (RISK)	Which would lead to effect on objective(s) (IMPACT)	Probability (L/M/H)	Impact on T/C/Q/ in days and/or £	Mitigation Strategy	Contingency Plan
Croatia	**P204 (A)**	Quality of the selected purchaser (Y163)	Supplier failure and task P204 will be delayed	Inspection I013 will be delayed	**High**	**Cost** - £4,500 for 3 missed inspection days	Select a more reputable supplier	Allow for space in the budget to rebook inspection days and choose a more expensive supplier.
	I028	I028 not commencing in period 2 as planned (Oversight)	Inspection days not captured in decision sheet were missed	Delay in commencement of Task A729	**Medium**	**Cost** - £4,500.00 for 3 missed inspection days	Review decision sheets appropriately and pay attention to details	Book extra inspection days in period 3 and ensure that decision sheets are appropriately reviewed by the team before submission.
	P204 (B)	Quality of the selected purchaser (Y465)	Supplier failed and Task P204 was delayed	Inspection I013 will be delayed	**Medium**	**Cost** - £4,500.00 for 3 missed inspection days	Select the highest quality supplier	Select a more reputable supplier Y364 AT Day 70
	A729	A729 not commencing in Period 3 (Oversight)	A729 was not captured in the decision sheet	Delay in commencement of task A729 and T530	**Medium**	**Cost** - £10,000.00 for 3 assemblers in period 3 that were wasted	Review decision sheets appropriately and pay attention to bookings on decision sheets	Book extra assemblers to finish the task faster in period 4
	T530	Test Failure	Initial Test Failure and repeat of the assembly task A729	Delay in commencement of Task A721 which is on the critical path	**High**	Sunk Cost of initial assembly work on A721	Extra Assemblers booked to work on A729 in subsequent period	Additional testers and assemblers booked in advance for the next period

ALBANIA RISK MATRIX

Project	Risk No.	As a result of… (CAUSE)	Uncertain event may occur… (RISK)	Which would lead to effect on objective(s) (IMPACT)	Probability (L/M/H)	Impact on T/C/Q/ in days and/or £	Mitigation Strategy	Contingency Plan
Albania	**D108**	Extension of D108's estimated man-days.	Other design jobs, D105 and D109, not being completed within planned time frame.	M312 will delay and T522 on the critical path will be influenced.	**Medium**	**Time**-20 days delay for the completion of all design jobs **Cost**- Extra 3 designers (£24000) in period 5 and 6 for D105 and D109.	Start job task earlier with sufficient designer resources in period 3.	Set as the priority design job in period 4 and select the most reputable subcontractor with shorter durations in case of failure and delays.
	D109	Extension of D109's estimated man-days and insufficient designers in period 6.	M315 cannot commence.	The whole project's progress will be delayed.	**High**	**Time**-10 days delay of commencing M315 **Cost**-Extra 1 designer in period 6 (£8000) and extra assembles and testers in later 2 periods to ensure the delivery date	Book an extra designer in period 6.	Select the most reputable subcontractor for M315 and maximize the assemblers and testers in period 7 and 8.
	I028	Time conflicts for the inspections	A729 may not finished in period 2 and the need of extra assemblers in the next period.	Delay of T530	**Medium**	**Cost**- Extra 1 assembler(**£10000)** in period 2	Select the first few days to do the inspection in period 2.	Book extra assemblers to ensure the A729 completed in period 2.
	T530	Test failure	Both A729 and T530 will have to be redone in the next period.	A721 will not be able to start on time.	**High**	**Cost**- Extra 1 assembler(£10000) and 1 Tester(£12000) for restarting the A729 and T530	Book 1 extra assembler in period 5 and 1 tester in period 6.	Book 2 extra assemblers and 2 testers in period 6 in case of the failure and its impact on A721.
	T523	Extension of A729's and T523's estimated man-days	Delay of Inspection I026.	Delayed delivery date	**Medium**	**Time**- Resulted in the 10 days delay of the delivery date **Cost**- The cost of extra assemblers and testers out of planning and the penalty of 10 days (£75,000) delay of delivery time	Book the maximum assemblers and testers in period 8.	Book the extra inspection days in case of delay.

HONDURAS RISK MATRIX

Project	Risk No.	As a result of… (CAUSE)	Uncertain event may occur… (RISK)	Which would lead to effect on objective(s) (IMPACT)	Probability (L/M/H)	Impact on T/C/Q/ in days and/or £	Mitigation Strategy	Contingency Plan
Honduras	**M311**	Motivated by cost savings, supplier X251 was chosen, which offered low prices but variable quality that could be excellent.	X251 withdrew midway due to quality qualification issues, causing a serious delay in the progress of M311.	All tasks on the critical path were delayed, resulting in a significant of not finishing in 140 days.	**High**	**Time -** M311 was completed only around 140 days later. This inevitably led to delays in the entire project. **Cost -** Penalties of £8,000 for each day of delay.	Re-select the supplier with a high quality even though more expensive	Allocate as many resources as possible in periods 7 and 8 to finish the project on time, as this delay affected the critical path directly.
	D108	The expected completion time for D108 was revised to be longer than originally scheduled.	M312 will start later, and so will I017, which delay T522 on the critical path.	The delayed start of T522 is likely to cause a delay in the delivery of the entire project.	**Medium**	**Cost -** If the extension is carried over to the next period, more designers will have to be allocated, at £400 per person per day.	Select a subcontractor that can guarantee the speed and quality of delivery for M312 to reduce the overall risk of delay	Book additional designers to ensure the completion of D108.
	P214	Selection of the risky Y466 supplier after price and quality factors.	The selected supplier withdrew midway causing the task to fail.	Selection of a new supplier and would make I018 delay.	**Medium**	**Cost -** £3,000 for 2 inspection days	Select the most expensive but more reliable supplier	Re-select Y567 as a contingency plan.
	T530	Task failure	Have to re-start both A729 and T530	A721 will start later, leading to an overall delay risk.	**Medium**	**Cost -**All manpower related to A721 and T530 need to rebooked, causing additional costs.	Allocate sufficient assemblers and testers at an early period to prevent failures when no one is available.	Consider the possibility of the test failure and book the necessary additional resources in advance

COUNTRY INTRODUCTION

FINLAND

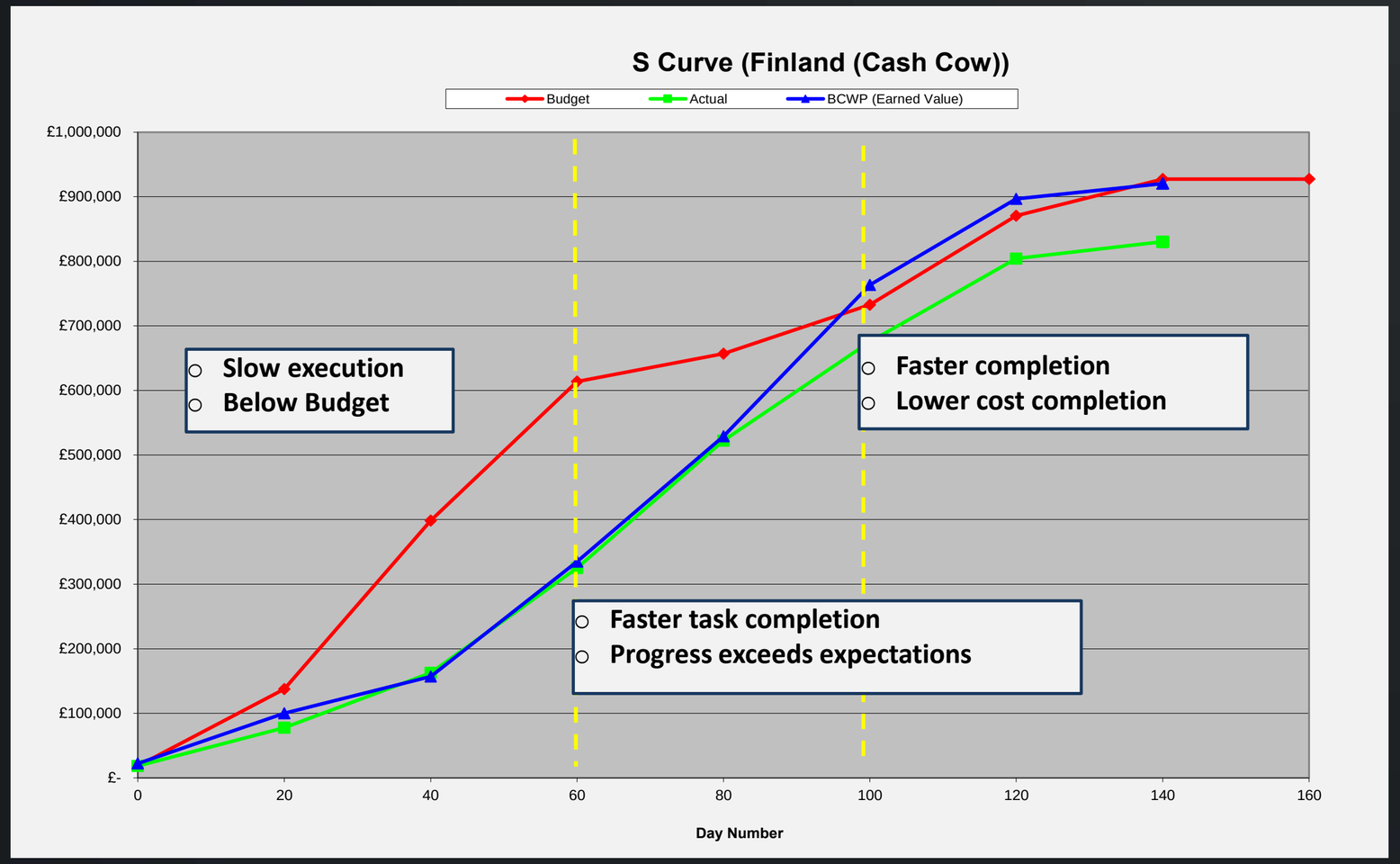
PROJECT 1
Finland

Contract:

- ✓ **Value:** £1.1m
- ✓ **Lead Time:** 130 days
- ✓ **Penalties:** £10k/day

Performance:

- ✓ **Completion:** 129 days
- ✓ **Total spend:** £830, 346.63
- ✓ **Penalties:** £0
- ✓ **Final profit:** £269.653.37



PROJECT 1 FINLAND

SUCCESSES

- High-quality resource selection
- Maximum time estimation for scheduling in the initial stages of the project.
- Adaptability when faced with project set-backs.
- Efficient communication between members
- Contingencies for job tasks (i.e., booking extra resources in later periods in case of delay)

CHALLENGES

- Slow initial progress
- Coordinating multiple teams
- Balancing project needs with portfolio goals

LESSONS LEARNED

- The importance of communication
- The importance of collaboration

COUNTRY INTRODUCTION

CROATIA

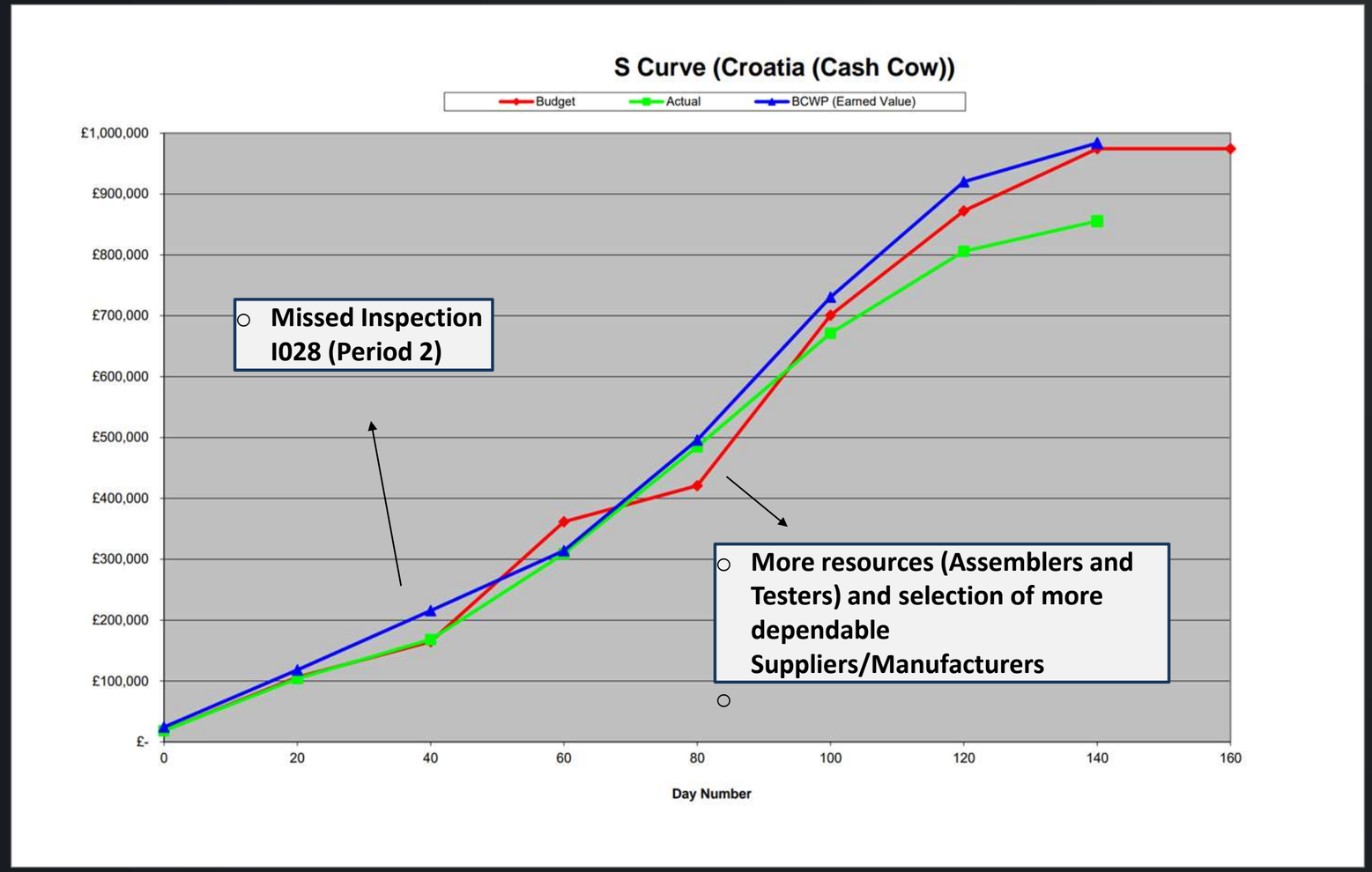
PROJECT 2
Croatia

Contract

- ✓ **Value:** £1.05m
- ✓ **Lead Time:** 140 days
- ✓ **Penalties:** £10k/day

Performance:

- ✓ **Completion:** 140 Days
- ✓ **Total spend:** £855,553.08
- ✓ **Penalties payment:** 0
- ✓ **Final profit:** £194,446.92



PROJECT 2 CROATIA

SUCCESSES

- Proper Task Delegation (Risk, Gantt Chart, Supplier/Manufacturer Review, Decision Sheets)
- Effective Communication (Formal and informal channels, Frequency and Feedback)
- Experience from the PPMC allowed for optimal decision making (Buffers and Resource Allocation)
- Lessons Learned and Documents from the PPMC Exercise
- Flexible Plans and adequate change approval process within the Project Team
- Excellent Soft Skills

CHALLENGES

- Cross-project communication at the initiation and planning stage
- Language Barriers

LESSONS LEARNED

- Document & Apply Lessons Learned to improve future projects.
- Identify Risks Early to prevent future issues.
- Constant Communication boosts team performance.
- Centralized Portfolio Team increases individual project success.
- Strength-Based Task Allocation enhances efficiency.
- Make Data-Driven Decisions—avoid assumptions.

COUNTRY INTRODUCTION

ALBANIA

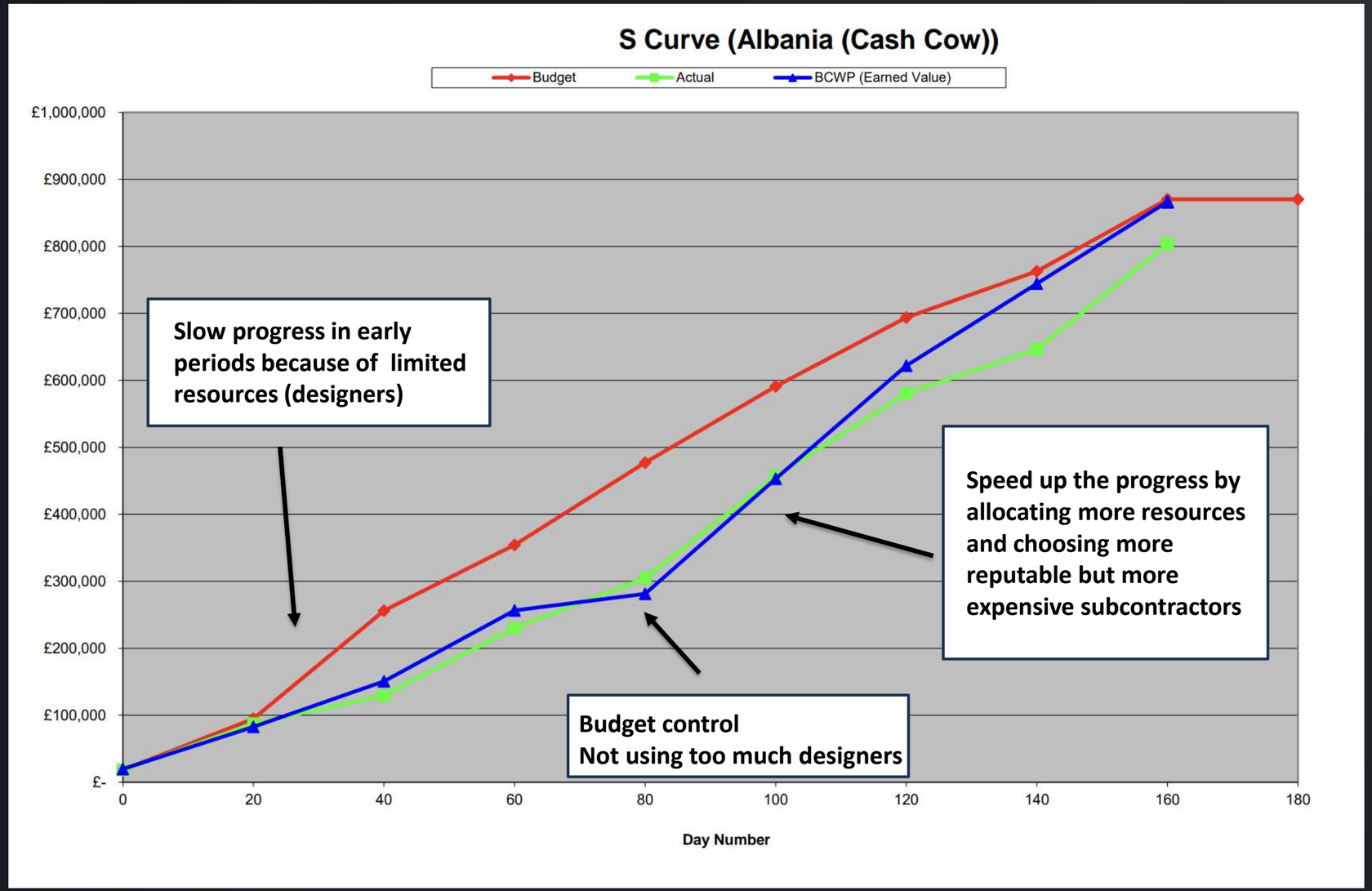
PROJECT 3
Albania

Contract

- ✓ **Value:** £900k
- ✓ **Lead Time:** 150 Days
- ✓ **Penalties:** £7,500/ Day

Performance:

- ✓ **Completion:** 160 Days
- ✓ **Total spend:** £803,647.79
- ✓ **Penalties payment:** £75, 000
- ✓ **Final profit:** £21, 352.21



PROJECT 3 ALBANIA

SUCCESSES

- Budget controlling
  e.g. not exceeding the human resources at the level of band B or trying to allocate the assembler work and test task in one period)
- High-quality subcontractors and suppliers selection
  (trade money for time)
- Mitigation plan according to previous experiences
  (extra resources for task failure and extension in case of the time delay)
- Good teamworking

CHALLENGES

- Limited resource allocation as the project was low priority in the portfolio.
- Extension beyond expectation

LESSONS LEARNED

- Initial strategy for portfolio management
- Sufficient communication between project teams
- Mitigation plan and contingency plan

COUNTRY INTRODUCTION

HONDURAS

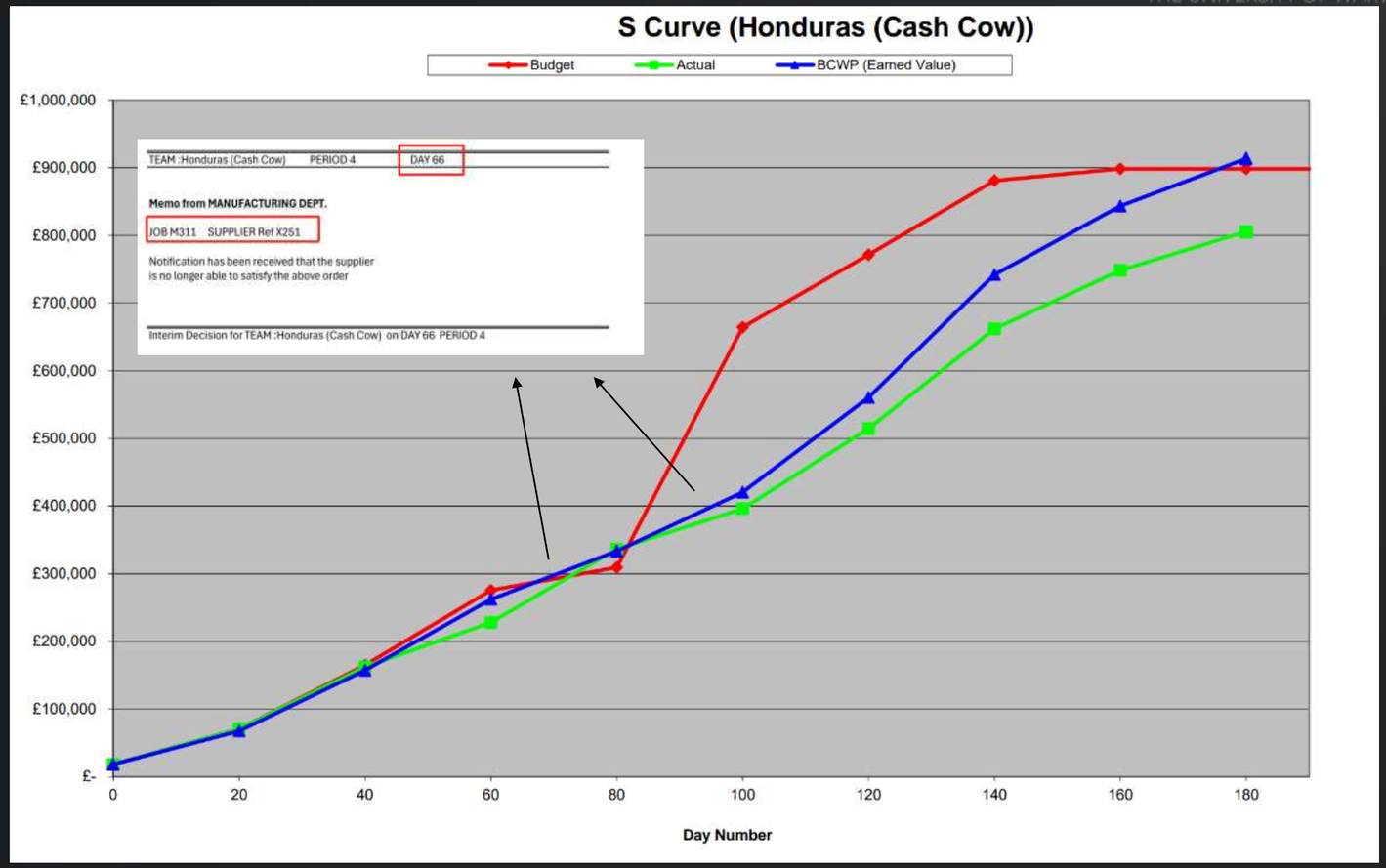
PROJECT 4
Honduras

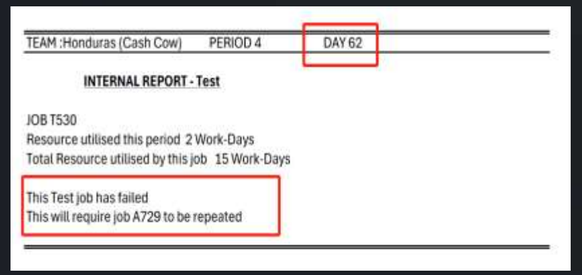
Contract

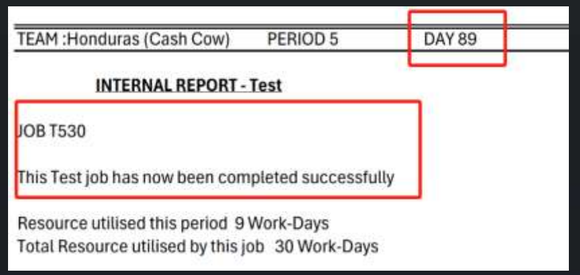
- ✓ **Value:** £1.05m
- ✓ **Lead Time:** 140 Days
- ✓ **Penalties:** £8,000/ Day

Performance:

- ✓ **Completion :** 171 Days
- ✓ **Total Spend:** £805,754.32
- ✓ **Penalties Payment:** £248,000
- ✓ **Final Profit:** -£3,754.32







PROJECT 4 HONDURAS

SUCCESSES

- Acceptable Overall Cost Control
- Reasonable Arrangement of Inspectors
- Effective Ways of Mitigating the Risk of Test Failure

CHALLENGES

- More Comprehensive Risk Control of Supplier Selection

LESSONS LEARNED

- Good Internal Teamwork
- Effective and Efficient Negotiating Skills.
- The Project Manager's Role as a BRIDGE

KEY TAKEAWAYS

Resource Management:

- Simulation --> The first three stages were done well, as can be seen from the total spend and curve.
- Real life --> Consider personnel flow from a more detailed perspective.

Communication:

- Simulation --> Manager as a bridge with other teams and portfolio.
- Real life -->Cross-departmental collaboration.

Organisational Structure:

- Simulation --> Lack of clear task division.
- Real life --> Established processes.

Decision-making:

- Simulation --> Better analysis needed when selecting suppliers (M311 & P214).
- Real life --> Conduct market research taking into account the country, region, and company culture.

PORTFOLIO RESULTS

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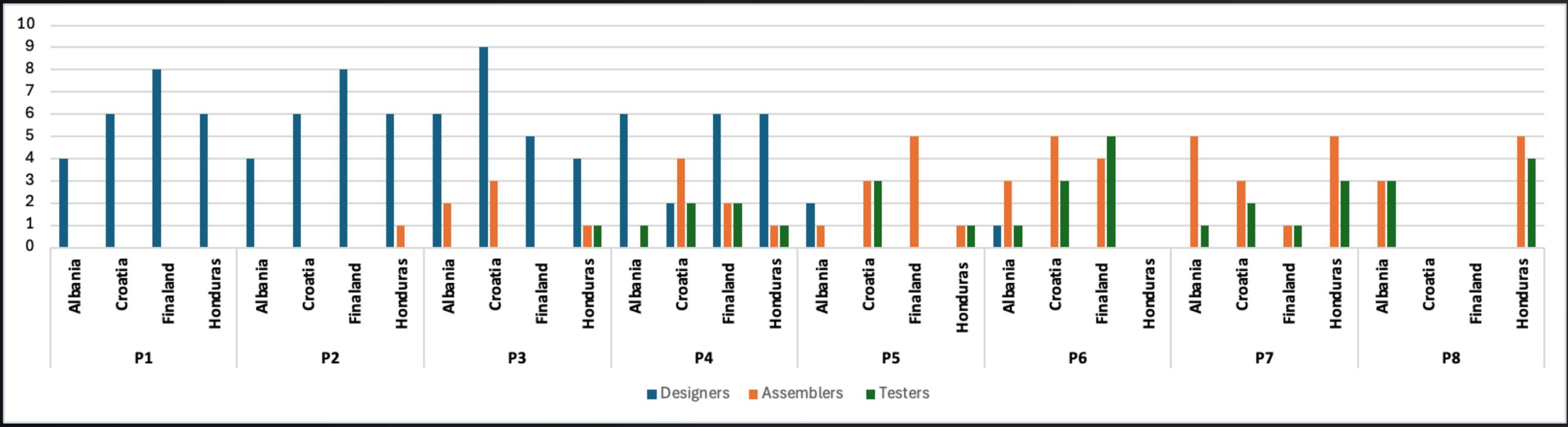
PORTOLIO CONTRACT	PORTFOLIO PROFIT	TOTAL SPEND
£4,100,00	£481,698	£3,618,302
£ 1,100,000	£ 269,653	£ 830,346.63
£ 1,050,000	£ 194,446.92	£ 855,553.08
£ 900,000	£ 21,352.21	£ 878,647.79
£1,050,000	£-3,754.32	£1,053,754.32

PORTFOLIO RESOURCE ANALYSIS



PORTFOLIO KEY TAKEAWAYS

1. Good prioritisation of projects at the portfolio level, however lack of consideration for resource allocation to lower priority projects (i.e. Albania).
2. Inconsistent choice of suppliers and manufacturers across all projects – maintain consistency for future projects.
3. Clear communication plans and emphasis on collaboration is essential to project performance.

S
Strengths

- Clear governance framework.
- Detailed risk management identification and mitigation plans.
- Clear portfolio strategy and objectives established early on.

W
Weaknesses

- Misalignment between project leaders – narrow view of portfolio.
- Lower priority projects underperformed
- Project overlaps, limiting availability of resources.

O
Opportunities

- Reallocation of unused resources from other projects
- Learning from past periods mistakes to optimize future decision-making

T
Threats

- Unforeseen changes by external suppliers and manufacturers.
- Conflicts between team members over decisions.

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THANK YOU FOR LISTENING

We welcome any questions.