Return on Investment (ROI) Using MANTECH Multi-Parameter Analysis Systems - USD

A network of commercial laboratories has been a longtime user of MANTECH systems at various facilities around the world. Their first system ran 200,000 samples in five years. The MT100 analyzer analyzed 7 different parameters per sample and operated 24 hours/day, 7 days/week. This generated €9,537,000 in revenue. Their initial investment was $116,400.

The system discussed in this case study analyses pH, conductivity, alkalinity (speciated), turbidity and absolute color from a single 50ml tube. The cost per sample was $1.36. After factoring in the non-revenue generating quality control samples, it was revealed that *the Return on Investment for this system was only 21 days*. With MANTECH's RapidAlk™ and IntelliRinse™ technologies, and small volume sample tubes, it is the most sustainable and the "greenest" system on the market, as it reduces plastic waste and reagent consumption.

Analysis:

- Hourly Labour Rate: $63.95
- MANTECH Pro System Price: $116,400
- Overhead Percentage: 50%
- Percentage of Quality Control Samples: 25%
- Total Selling Price for all Parameters: $47.67

ROI Achieved in 21 Days!

Case Specifics	
Samples per Year Including (QC, spikes, blanks, etc.)	40,000
Samples per Day (based on 250 working days)	160
Cost per Day	
Technician Time per Day with MT100 System	1.31 hours = $83.77
Supply Cost per day with MT100 System (based on 250 working days, including consumables, electrodes, reagents, tubes, etc.)	$61.68
Total Cost per day for Technician and Supplies	$218.17
Cost Calculations	
Divided by Number of Analyses per day = Analysis Cost per Sample 4-7 Parameters	$1.36
Selling Price Per Sample	$47.67
Gross Profit Margin per Sample	$46.31
Result	
Instrument Payback time in DAYS!	21

Notes:

1. Estimated values are conservative. For example, for sample tubes, a cost of $0.15/tube + 10% extra was assumed.
2. Analysis Cost is TOTAL cost for 4-7 parameters per sample using an MT100 Analyzer.
3. The technician time will decrease if sample run lists are automatically imported from Excel/LIMS.
4. Technician time includes an estimate for preparing standards, titrants, etc.
5. Cost of reagents vary based on purchasing them versus preparing them in-house. Note, purchasing reagents will decrease the amount of technician time required.
6. Additional savings are realized from a decreased turnaround time, improved QC protocol, and the ability to operate unattended overnight.
7. Instrument payback considers only revenue-generating samples (i.e., not the percentage of QC samples entered above).