

**PROFITABILITY**  
 The profitability of the investment is calculated as follows:  
 Profitability = (Net Present Value / Initial Investment) × 100%  
 Profitability = (100,000 / 1,000,000) × 100% = 10%

**CONCLUSION**  
 The investment in the new machine is profitable, as the NPV is positive and the profitability is 10%.

Year	Revenue	Cost	Net Cash Flow
0	0	1,000,000	(1,000,000)
1	200,000	100,000	100,000
2	250,000	100,000	150,000
3	300,000	100,000	200,000
4	350,000	100,000	250,000
5	400,000	100,000	300,000
6	450,000	100,000	350,000
7	500,000	100,000	400,000
8	550,000	100,000	450,000
9	600,000	100,000	500,000
10	650,000	100,000	550,000
11	700,000	100,000	600,000
12	750,000	100,000	650,000
13	800,000	100,000	700,000
14	850,000	100,000	750,000
15	900,000	100,000	800,000
16	950,000	100,000	850,000
17	1,000,000	100,000	900,000
18	1,050,000	100,000	950,000
19	1,100,000	100,000	1,000,000
20	1,150,000	100,000	1,050,000
21	1,200,000	100,000	1,100,000
22	1,250,000	100,000	1,150,000
23	1,300,000	100,000	1,200,000
24	1,350,000	100,000	1,250,000
25	1,400,000	100,000	1,300,000
26	1,450,000	100,000	1,350,000
27	1,500,000	100,000	1,400,000
28	1,550,000	100,000	1,450,000
29	1,600,000	100,000	1,500,000
30	1,650,000	100,000	1,550,000
31	1,700,000	100,000	1,600,000
32	1,750,000	100,000	1,650,000
33	1,800,000	100,000	1,700,000
34	1,850,000	100,000	1,750,000
35	1,900,000	100,000	1,800,000
36	1,950,000	100,000	1,850,000
37	2,000,000	100,000	1,900,000
38	2,050,000	100,000	1,950,000
39	2,100,000	100,000	2,000,000
40	2,150,000	100,000	2,050,000
41	2,200,000	100,000	2,100,000
42	2,250,000	100,000	2,150,000
43	2,300,000	100,000	2,200,000
44	2,350,000	100,000	2,250,000
45	2,400,000	100,000	2,300,000
46	2,450,000	100,000	2,350,000
47	2,500,000	100,000	2,400,000
48	2,550,000	100,000	2,450,000
49	2,600,000	100,000	2,500,000
50	2,650,000	100,000	2,550,000
51	2,700,000	100,000	2,600,000
52	2,750,000	100,000	2,650,000
53	2,800,000	100,000	2,700,000
54	2,850,000	100,000	2,750,000
55	2,900,000	100,000	2,800,000
56	2,950,000	100,000	2,850,000
57	3,000,000	100,000	2,900,000
58	3,050,000	100,000	2,950,000
59	3,100,000	100,000	3,000,000
60	3,150,000	100,000	3,050,000
61	3,200,000	100,000	3,100,000
62	3,250,000	100,000	3,150,000
63	3,300,000	100,000	3,200,000
64	3,350,000	100,000	3,250,000
65	3,400,000	100,000	3,300,000
66	3,450,000	100,000	3,350,000
67	3,500,000	100,000	3,400,000
68	3,550,000	100,000	3,450,000
69	3,600,000	100,000	3,500,000
70	3,650,000	100,000	3,550,000
71	3,700,000	100,000	3,600,000
72	3,750,000	100,000	3,650,000
73	3,800,000	100,000	3,700,000
74	3,850,000	100,000	3,750,000
75	3,900,000	100,000	3,800,000
76	3,950,000	100,000	3,850,000
77	4,000,000	100,000	3,900,000
78	4,050,000	100,000	3,950,000
79	4,100,000	100,000	4,000,000
80	4,150,000	100,000	4,050,000
81	4,200,000	100,000	4,100,000
82	4,250,000	100,000	4,150,000
83	4,300,000	100,000	4,200,000
84	4,350,000	100,000	4,250,000
85	4,400,000	100,000	4,300,000
86	4,450,000	100,000	4,350,000
87	4,500,000	100,000	4,400,000
88	4,550,000	100,000	4,450,000
89	4,600,000	100,000	4,500,000
90	4,650,000	100,000	4,550,000
91	4,700,000	100,000	4,600,000
92	4,750,000	100,000	4,650,000
93	4,800,000	100,000	4,700,000
94	4,850,000	100,000	4,750,000
95	4,900,000	100,000	4,800,000
96	4,950,000	100,000	4,850,000
97	5,000,000	100,000	4,900,000
98	5,050,000	100,000	4,950,000
99	5,100,000	100,000	5,000,000
100	5,150,000	100,000	5,050,000



Figure 1: 3D rendering of the mechanical assembly.