



PDK Standards Offer High Leverage in Kit Development

PDK Resource Savings Estimator

PDK Deliverables	Redundant item	Qty	% Total effort	% Saved by standards leverage	\$ Savings
Pcells	languages	2	50%	30%	\$1,913
	evaluator engines	2			
Rule decks	EDA tool flows	2	25%	25%	\$469
Tech files	EDA tool flows	2	15%	20%	\$225
CDF / callbacks	EDA tool flows	3	5%	15%	\$104
SPICE sockets	SPICE engines	4	5%	20%	\$183
				100%	
					\$2,893

PDK Development Resources	
Effort/kit (pers-months):	3.00
# Kits per year:	200
Staffing level:	50.0
Avg loaded \$/staff (\$K):	\$150
Annual baseline total cost (\$K):	\$7,500

Si2 Standards Participation	
Si2 dues (\$K):	\$20.0
OpenPDK dues (\$K):	\$40.0
Engineering WG time (\$K):	\$30.0
Annual cost (\$K):	\$90.0

Gross Savings:	\$2,893
Less costs of development team ramp-up NRE:	-\$394
Less costs of Si2 standards participation:	-\$90
First-year Savings (\$K):	\$2,410
Recurring Annual Savings (\$K):	\$2,800
Payback at (months):	2.41

NRE Ramp-up Expense	
% year productivity loss:	15%
% staff directly impacted:	35%
Initial year NRE \$:	\$394

PDK development and testing resources multiply quickly – this estimator shows how the costs and savings add up. The savings gained from leveraging interoperable standards continue to scale even as NRE costs remain fixed, just as with software or IP reuse.

$$\text{Unit Savings} = (\text{baseline cost}) \cdot (\% \text{ total effort}) \cdot \left[1 - (1 - \% \text{ saved})^{(q \cdot y - 1)} \right]$$

$$\text{Gross Savings} = \sum_{i=1}^5 (\text{Unit Savings})_i$$

Adjust to suit user-defined assumptions





PDK Development ROI Examples

- Using frequently-cited assumptions (3p-m/kit, 200 kits/yr, \$150K/yr/engr, 15-30% savings from each standard):
 - ROI in < 3 months (\$2.4M)
- But now assume NO Pcell alignment / savings:
 - ROI still within 1st year (remaining areas of savings), \$500K
- Si2 sharing this PDK resource savings estimator
 - Insert your own assumptions to assess the ROI unique to your specific situation