1. A method for growing a single crystal silicon ingot in a Czochralski process, the method comprising:

preparing a melt of silicon in a crucible;

withdrawing a single crystal silicon ingot from the melt;

providing a plurality of growth parameters related to growth of the single crystal silicon ingot; and

providing a dynamic state chart that includes a visual representation of the growth parameters, the dynamic state chart being a circle state chart that is divided into sectors, each sector being associated with a growth parameter.

2. The method as set forth in claim 1 further comprising adding polycrystalline silicon to the melt while withdrawing the silicon ingot from the melt to replenish silicon in the crucible.

3. The method as set forth in claim 1 wherein the circle state chart has a center and each sector has an outer edge and a radius that extends from the circle state chart center to the outer edge, the radius changing in response to changes in a value of the growth parameter.

4. The method as set forth in claim 1 wherein the dynamic state chart includes a minimum and maximum

growth parameter visual associated with each growth parameter.

5. The method a set forth in claim 1 wherein the growth parameters are selected from the group consisting of the ingot target length, the ingot diameter, the seed lift velocity, heat shield position, polysilicon feed rate, dopant feed rate, ingot puller pressure and ingot growth rate.

6. The method as set forth in claim 1 further comprising changing a color of the visual representation based on changes in one or more growth parameter values.

7. The method as set forth in claim 1 wherein the plurality of growth parameters are provided by:

measuring the growth parameter in an ingot growth system, the crucible being disposed in a growth chamber of the ingot growth system; or

generating the growth parameter from an algorithm.

8. A method for growing a single crystal silicon ingot in a Czochralski process, the method comprising:

preparing a melt of silicon in a crucible;

withdrawing a single crystal silicon ingot from the melt;

providing a plurality of growth parameters related to growth of the single crystal silicon ingot; and

providing a dynamic state chart that includes a visual representation of the growth parameters, the dynamic state chart including a minimum and maximum growth parameter visual associated with each growth parameter, the dynamic state chart being a circle state chart, the minimum growth parameter visual being a first arc and the maximum growth parameter visual being a second arc radially disposed outward from the first arc, the first arc and second arc defining an annular sector which represents an acceptable range of the growth parameter.

9. The method as set forth in claim 8 wherein the dynamic state chart includes a target growth parameter visual, the target growth parameter visual being a third arc, the third arc being disposed between the first arc and the second arc.

10. The method as set forth in claim 8 wherein:

the first arcs of each sector are the same distance from a circle state chart center such that the first arcs combine to form a first circle; and

the second arcs of each sector are the same distance from the circle state chart center such that the second arcs combine to form a second circle that is concentric to the first circle.

11. The method a set forth in claim 8 wherein the growth parameters are selected from the group consisting of the ingot target length, the ingot diameter, the seed lift velocity, heat shield position, polysilicon feed rate, dopant feed rate, ingot puller pressure and ingot growth rate.

12. An ingot growth system for producing a single crystal silicon ingot, the system comprising

a growth chamber;

a crucible disposed within the growth chamber configured to hold a melt including molten silicon;

an ingot pulling mechanism for withdrawing an ingot from the melt;

a control unit comprising a processor and a memory, the memory storing instruction that, when executed by the processor, cause the processor to:

determine a plurality of growth parameters related to growth of the single crystal silicon ingot; and

provide a dynamic state chart that includes a visual representation of the growth parameters to a user, the dynamic state chart including a minimum and maximum growth parameter visual associated with each growth parameter, the dynamic state chart being a circle state chart, the minimum growth parameter visual being a first arc and the maximum growth parameter visual being a second arc radially disposed outward from the first arc, the first arc and second arc defining an annular sector which represents an acceptable range of the growth parameter.

13. The ingot growth system as set forth in claim 12 further comprising a polycrystalline silicon feed system for adding polycrystalline silicon to the melt while withdrawing a silicon ingot from the melt to replenish silicon in the crucible.

14. The ingot growth system as set forth in claim 12 wherein the dynamic state chart includes a target growth parameter visual, the target growth parameter visual being a third arc, the third arc being disposed between the first arc and the second arc.

15. The ingot growth system a set forth in claim 12 wherein the growth parameters are selected from the group consisting of the ingot target length, the ingot diameter, the seed lift velocity, heat shield position, polysilicon feed rate, dopant feed rate, ingot puller pressure and ingot growth rate.

16. The ingot growth system as set forth in claim 12 wherein the memory stores instruction that, when executed by the processor, cause the processor to change a color of the visual representation based on changes in growth parameter value.

17. The ingot growth system as set forth in claim 12 wherein the system comprises a sensor system that measures one or more ingot growth parameters, the sensor system being communicatively connected to the control unit.

18. An ingot growth system for producing a single crystal silicon ingot, the system comprising

a growth chamber;

a crucible disposed within the growth chamber configured to hold a melt including molten silicon;

an ingot pulling mechanism for withdrawing an ingot from the melt;

a polycrystalline silicon feed system for adding polycrystalline silicon to the melt while withdrawing a silicon ingot from the melt to replenish silicon in the crucible;

a control unit comprising a processor and a memory, the memory storing instruction that, when executed by the processor, cause the processor to:

determine a plurality of growth parameters related to growth of the single crystal silicon ingot; and

provide a dynamic state chart that includes a visual representation of the growth parameters to a user, the dynamic state chart being a circle state chart that is divided into sectors, each sector being associated with a growth parameter.

19. The ingot growth system as set forth in claim 18 wherein the circle state chart has a center and each sector has an outer edge and a radius that extends from the circle state chart center to the outer edge, the radius

changing in response to changes in a value of the growth parameter.

20. The ingot growth system as set forth in claim 18 wherein the system comprises a sensor system that measurers one or more ingot growth parameters, the sensor system being communicatively connected to the control unit.